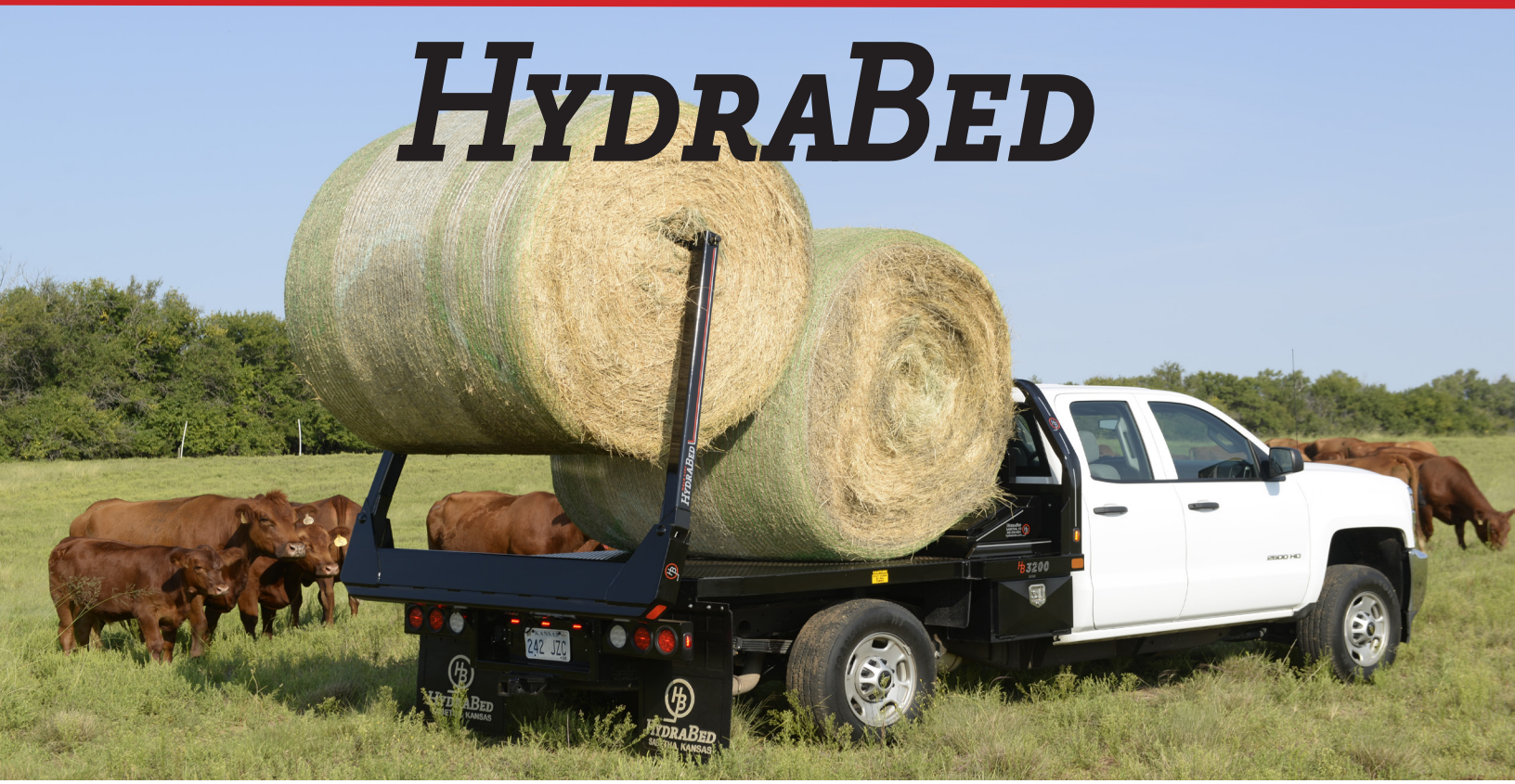
HydraBed



INSTALLATION MANUAL

HydraBed

The Original Flatbed Bale Handler

902 Hwy K246 · P.O. Box 248
Sabetha, KS 66534

(785) 284-3674 · (800) 530-5624
fax (785) 284-3931
website: www.hydrabeds.com

Contents

Your ***HydraBed***® represents an innovative solution to large round bale handling. The benefits of the patented flush-mount bale-handler as well as the utility of the flat bed are yours to use at any time.

As with any device designed to handle large round bales, some cautions are in order. Keep this manual with your ***HydraBed***® at all times. Refer to it regularly.

NEVER exceed the manufacturer's gross vehicle weight or gross axle weight rating for your vehicle.

NEVER exceed the tire manufacturers gross weight rating.

NEVER allow yourself or anyone else to go near a bale or any other object that is suspended by any means, hydraulic, mechanical or other.

NEVER increase or decrease the factory relief valve setting. This action automatically voids all warranties and, under certain circumstances, could endanger the operator and/or bystanders.

NEVER operate the vehicle and ***HydraBed***® on dangerous terrain.

NEVER operate the pump at engine speeds in excess of 3000 RPM or serious damage may result that will not be covered by warranty.

NEVER allow children or other unauthorized personnel access to the controls for your ***HydraBed***®.

ALWAYS use sound judgment and common sense when operating your vehicle and ***HydraBed***®.

ALWAYS attach trailers or equipment only to factory installed gooseneck hitch or rear drop hitch.

ALWAYS respect the weight of the load you are carrying and allow more stopping distance than normally required for empty vehicle.

ALWAYS make certain that there is no foreign material in the arm-receiving areas and/or the area where the arm-cross tube assembly comes to rest. Hydraulic pressure will be sufficient to cause damage if the arm assembly is placed in the stowed position over foreign material.

Your ***HydraBed***® features a free-floating mechanism to facilitate unrolling frozen or lopsided bales. This same mechanism, by its design, does not allow the ***HydraBed***® to exert downward pressure with its arms. Do not attempt to exert downward pressure with your ***HydraBed***® bale engaging arms unless down pressure pin (3/8 x 2-1/2 grade 5 bolt) is in place. Do not attempt to move arms forward of perpendicular until this pin is removed.

Notes:

Installation of HYDRABED® to Vehicle Chassis

Tools Required:
15/16” wrench, 15/16” socket and ratchet or impact wrench, drill with 5/8” bit, wire welder, combination square, hammer, pry bar, 7/16” socket and ratchet, wire pliers, Phillips screwdriver

Important Safety Notice:
Correct any leakage of liquid or vapors from any part of the fuel system before proceeding!

A1 Completely remove all non-factory additions to frame of vehicle. (fifth-wheel or rear hitches, etc.) Disconnect the vehicle battery prior to any welding.

A2 Using 5/8”x1-3/4” grade 5 bolts and lock nuts, (***hardware may vary in Level-Lok bolt bag - consult instructions***) mount front Level-Lok bed mounting brackets to vehicle frame approximately 3-1/2” from the rear of the cab. Install remaining Level-Loks at the center and rear of chassis. Refer to appropriate Level-Lok drawing for proper installation. Tighten all bolts securely to 112 ft/lbs minimum. IMPORTANT: Square each Level-Lok bracket with the ***HydraBed®*** frame rail.

A3 Lower ***HydraBed®*** into position between Level-Loks being careful not to contact cab. The Level-Lok system will automatically level the ***HydraBed®*** front to rear and side to side.

A4 Move ***HydraBed®*** to a location 1-1/2” to 2-1/4” from cab. These measurements are also determined by the ***HydraBed®*** wire harness located in the taillight housings and the vehicle frame. Make certain that there is enough clearance between them so that the harness will not be pinched. Verify that the ***HydraBed®*** frame is resting evenly on all 4 corners. Re-check squareness of each Level-Lok with vehicle and ***HydraBed®*** frame.

A5 Ground welder to under side of ***HydraBed®***, and weld Level-Loks to 6” channel main frame members of bed.

A6 Connect ***HydraBed®*** wiring to vehicle chassis wiring using appropriate EL-PL connector.

A7 Mount fuel fillers under edge of ***HydraBed®***, keeping opening as high as possible to provide gravity flow of fuel to tank.

A8 Install rear mud flaps. Upper edge of flap is installed ahead of mud flap mounting bracket of ***HydraBed®***. Trim all flaps as required to clear vehicle frame and Level-Loks.

A9 Manually lower ***HydraBed®*** arms to ground. Carefully release trapped air by manually moving control valve spool second from top.

Installation of Dash Bracket in Cab and Control Cables to Valve

Tools required:
Right angle drill and straight drill with 3/4" step bit, 1/4" bit and 1/16" bit for pilot holes; 7/16", 9/16", 3/4" or metric open end wrenches; Wire stripping and crimping pliers; 12 Volt test light; silicone sealant

B1 Lay back floor covering to expose steel floor pan at driver's side.

B2 Drill appropriate number of 3/4" holes in floor pan for control cables to enter cab. Refer to appropriate installation instructions provided with dash bracket.

B3 Install dash bracket to the left of the driver position. Refer to appropriate installation instructions provided with dash bracket.

B4 Wire switch and indicator light. Refer to EL-SK-100 (pages 7-11).

B5 Thread control cables from floor pan holes, along frame, across transmission/transfer case to passenger side, behind cab and into appropriate holes in ***HydraBed***® frame. Avoid sharp bends, especially in the first 14" from either end of the cable.

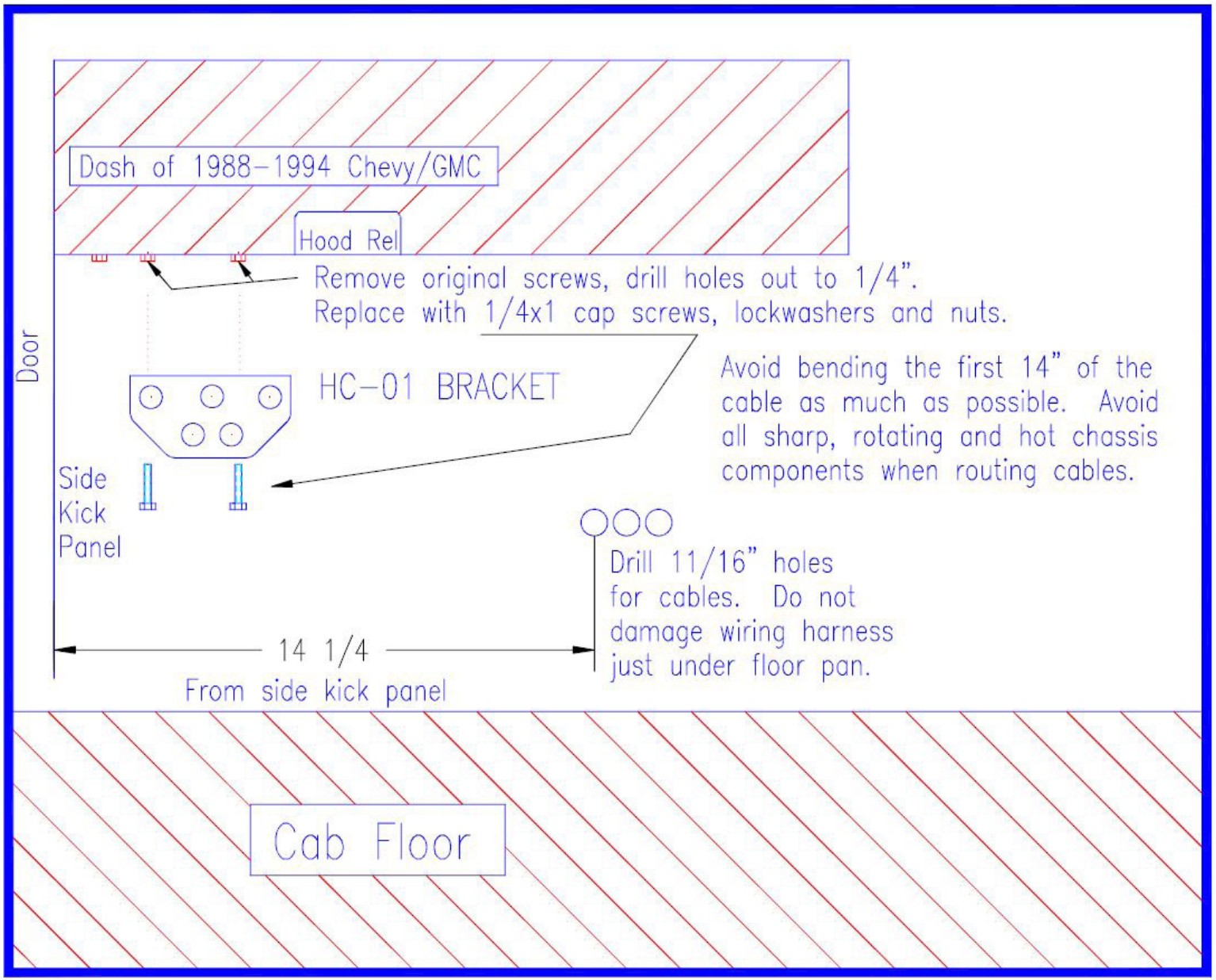
B6 Mount cables in ***HydraBed***® frame holes using 5/8 fine thread jam nuts. Hand tighten only. The "GRIP/RELEASE" function is controlled by the upper valve spool, "LOAD/UNLOAD" by the second valve spool, and the "T" handle auxiliary control by the lower valve spool. Check each cable for smooth operation.

B7 Connect cables to valve handles using clevises and pins, making certain that cable will completely spool valve both directions.

B8 Mount cables in dash bracket using 5/8" fine thread jam nuts. Do not over tighten. Check cables for smooth operation.

B9 Carefully secure cables to chassis, avoiding all hot, sharp and rotating parts. Seal cable entrance holes in cab with sealant.

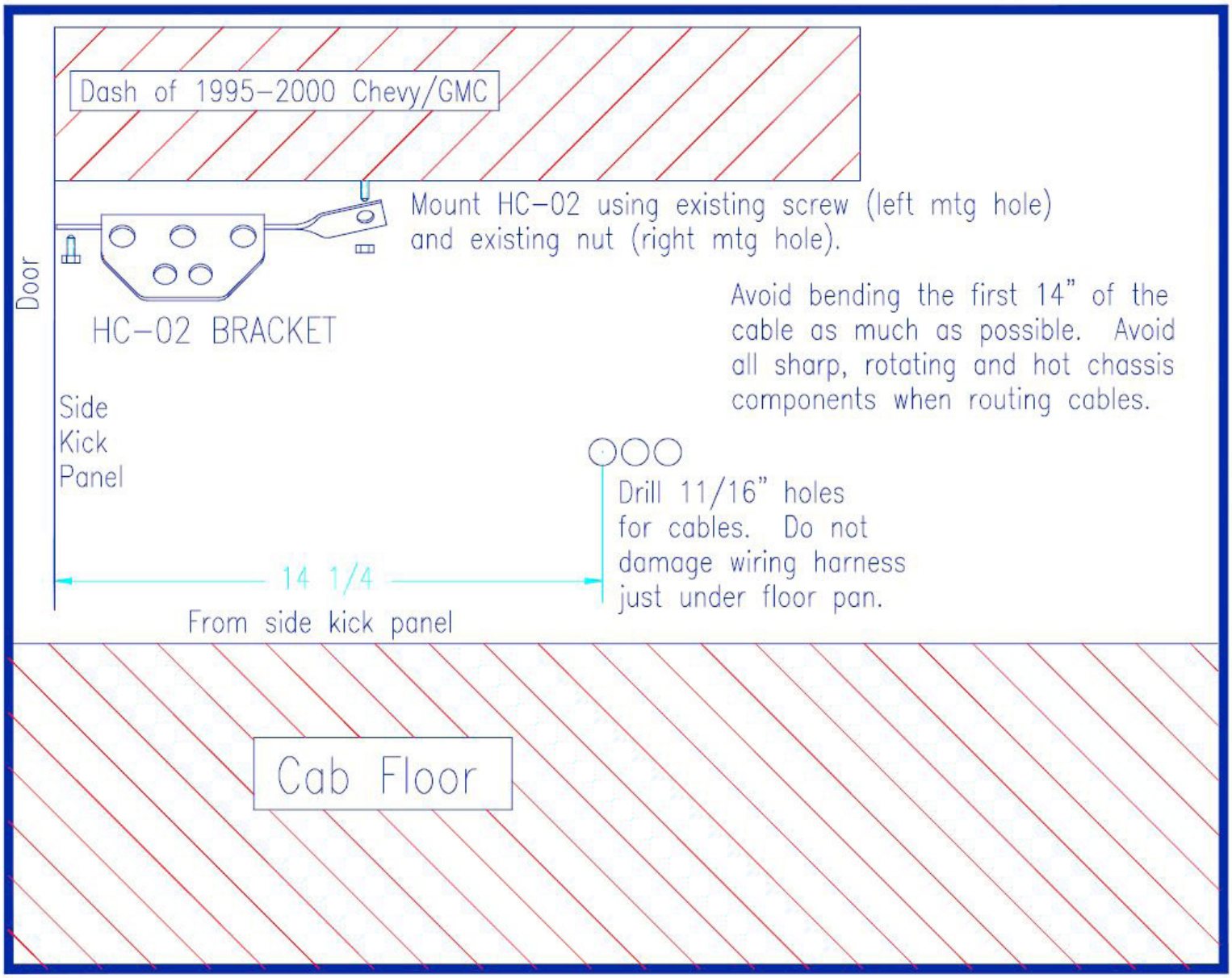
It is the installer's responsibility to keep control cables, wiring harnesses and fuel lines away from exhaust system heat sources.



Installation Instructions HC-01 Dash Bracket 1988-1994 Chevy/GMC

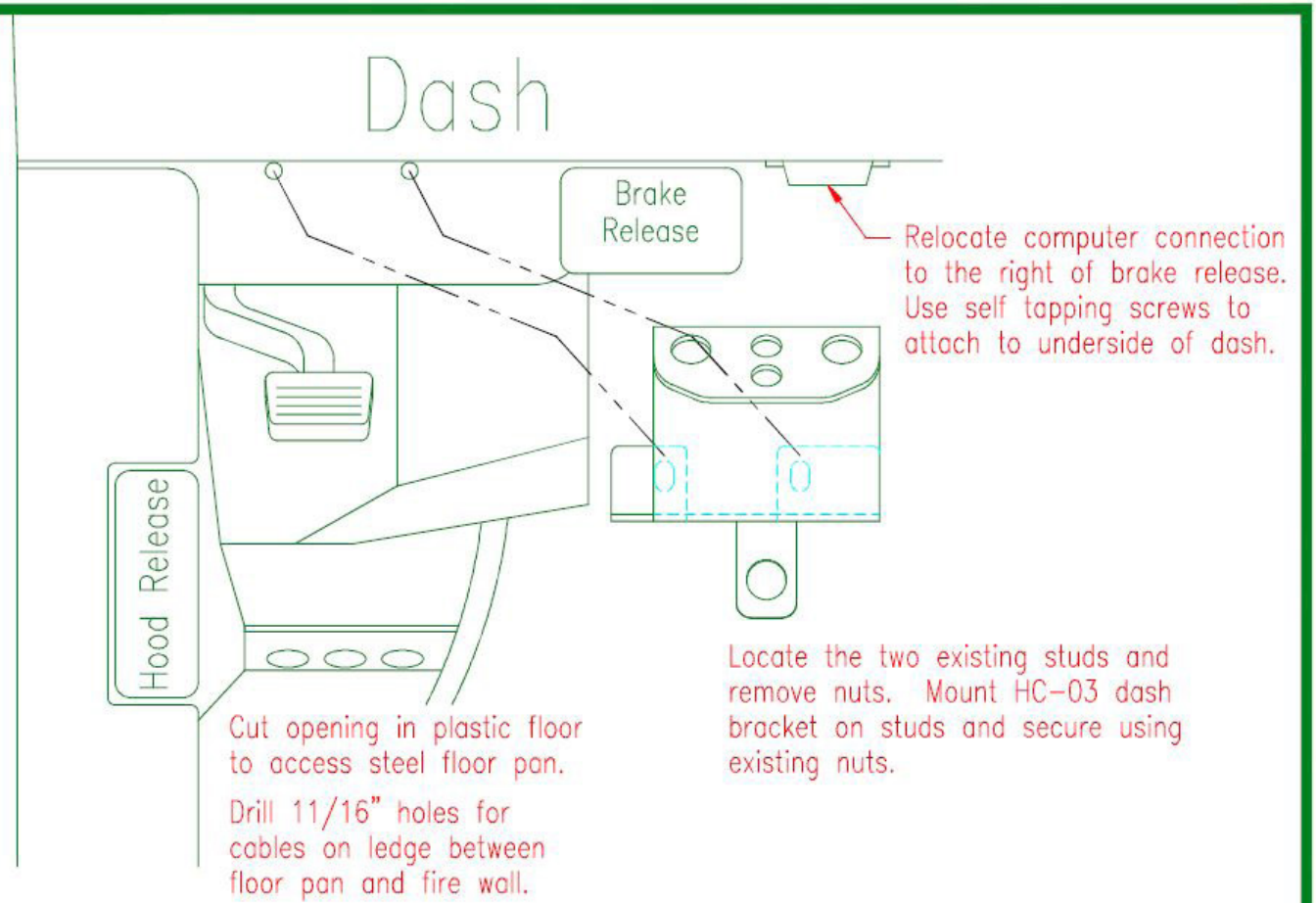
05/30/01

Installation Instructions HC-02 Dash Bracket 1995-2000 Chevy/GMC



05/30/01

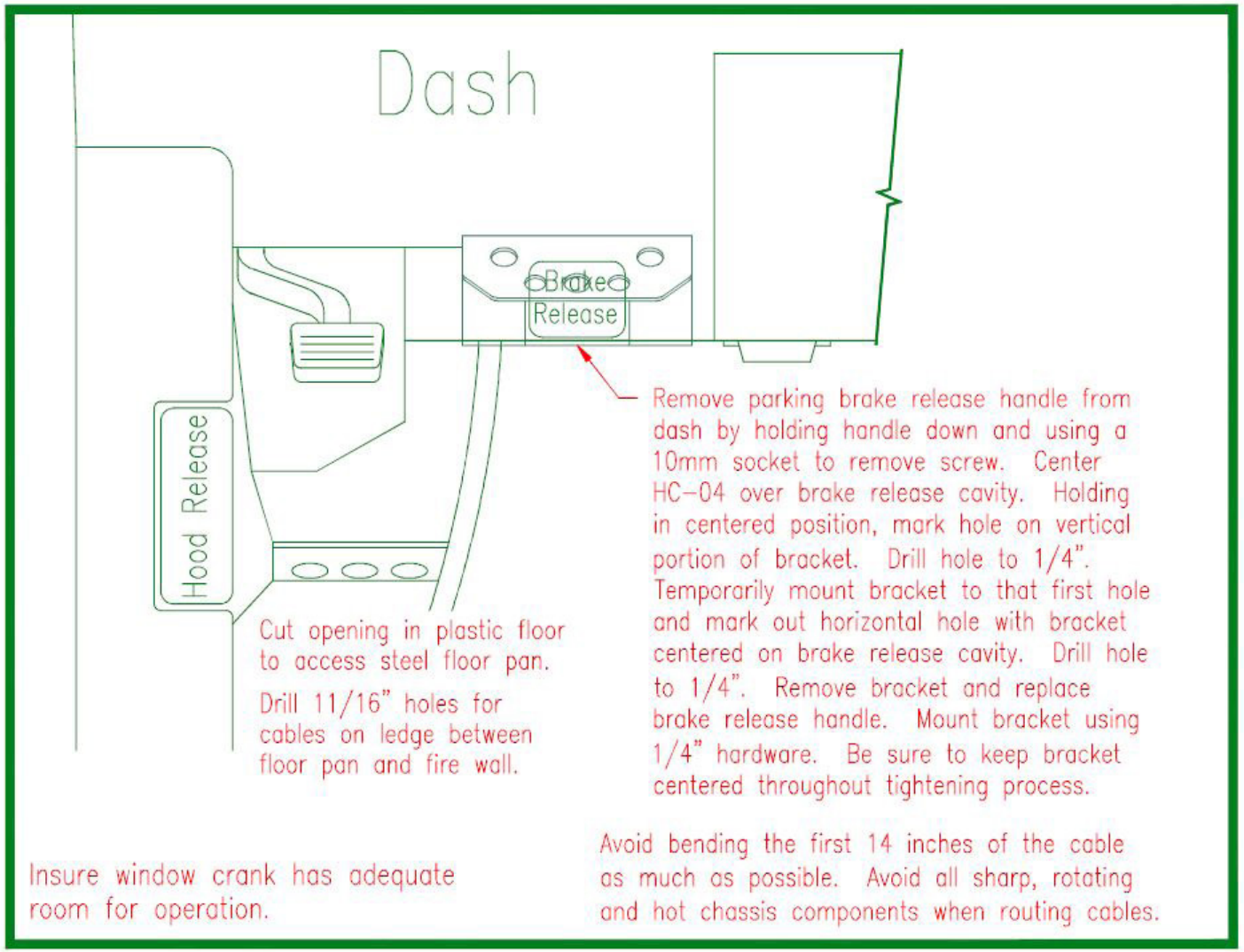
Installation Instructions HC-03 Dash Bracket 1999-2007 Classic Chevy Silverado GMC Sierra



Insure window crank has adequate room for operation.

Avoid bending the first 14 inches of the cable as much as possible. Avoid all sharp, rotating and hot chassis components when routing cables.

05/30/01



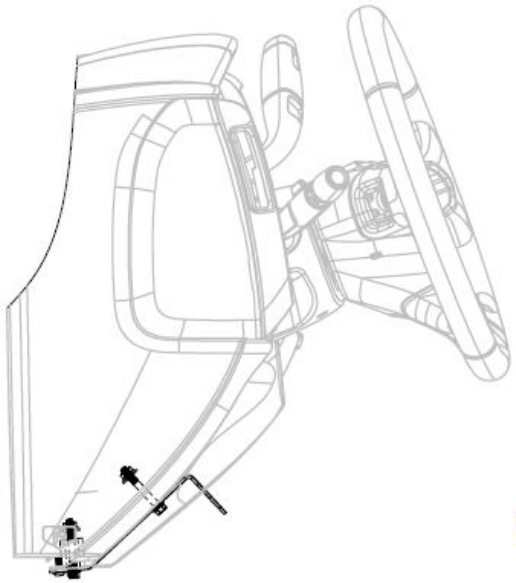
Installation Instructions HC-04 Dash Bracket 2007 & Newer Chevy Silverado GMC Sierra

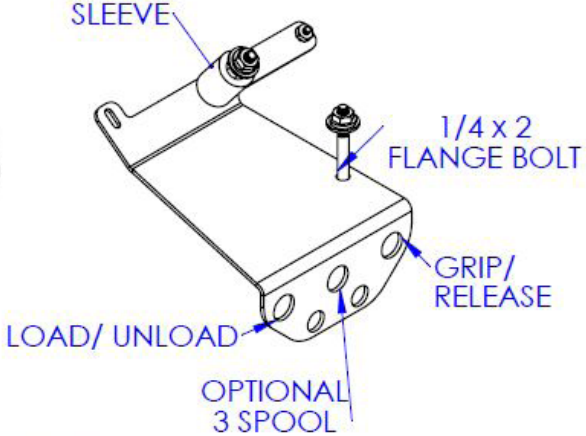
04/14/08

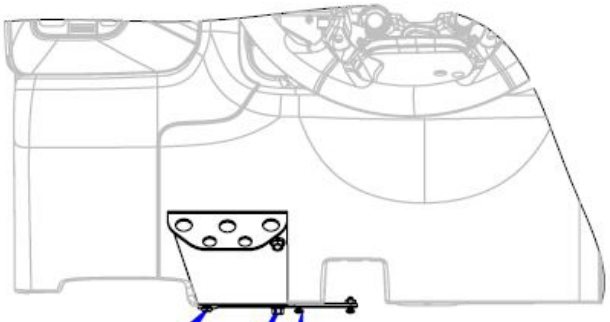
	REVISIONS		
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	4/15/2014	

INSTALLATION INSTRUCTIONS HC-05 DASH BRACKET 2015 CHEVY/ GMC

NOTES
- Avoid bending the first 14" of the cables as much as possible. Avoid all sharp, rotating & hot chassis componants when routing cables.
- Always verify that no wire harness is present before drilling.







Locate existing screw & mount dash bracket using T15 socket.

When dash bracket is aligned drill two 9/32" holes using dash bracket as your template.

Relocate computer plug-in "OBDII" to side holes on dash bracket

Add bolts, nuts, & sleeve to match the above drawing.

Cut opening in plastic floor to access steel floor pan.

Drill 11/16" hole for cables on ledge between floor pan & fire wall.

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ±1/16
ANGULAR: MACH ±1 BEND ±
TWO PLACE DECIMAL ±010
THREE PLACE DECIMAL ±005

MATERIAL —

DO NOT SCALE DRAWING

	NAME	DATE
DRAWN	HEATH	6/11/2014
PART #	DB-HC-05	
ASM #		

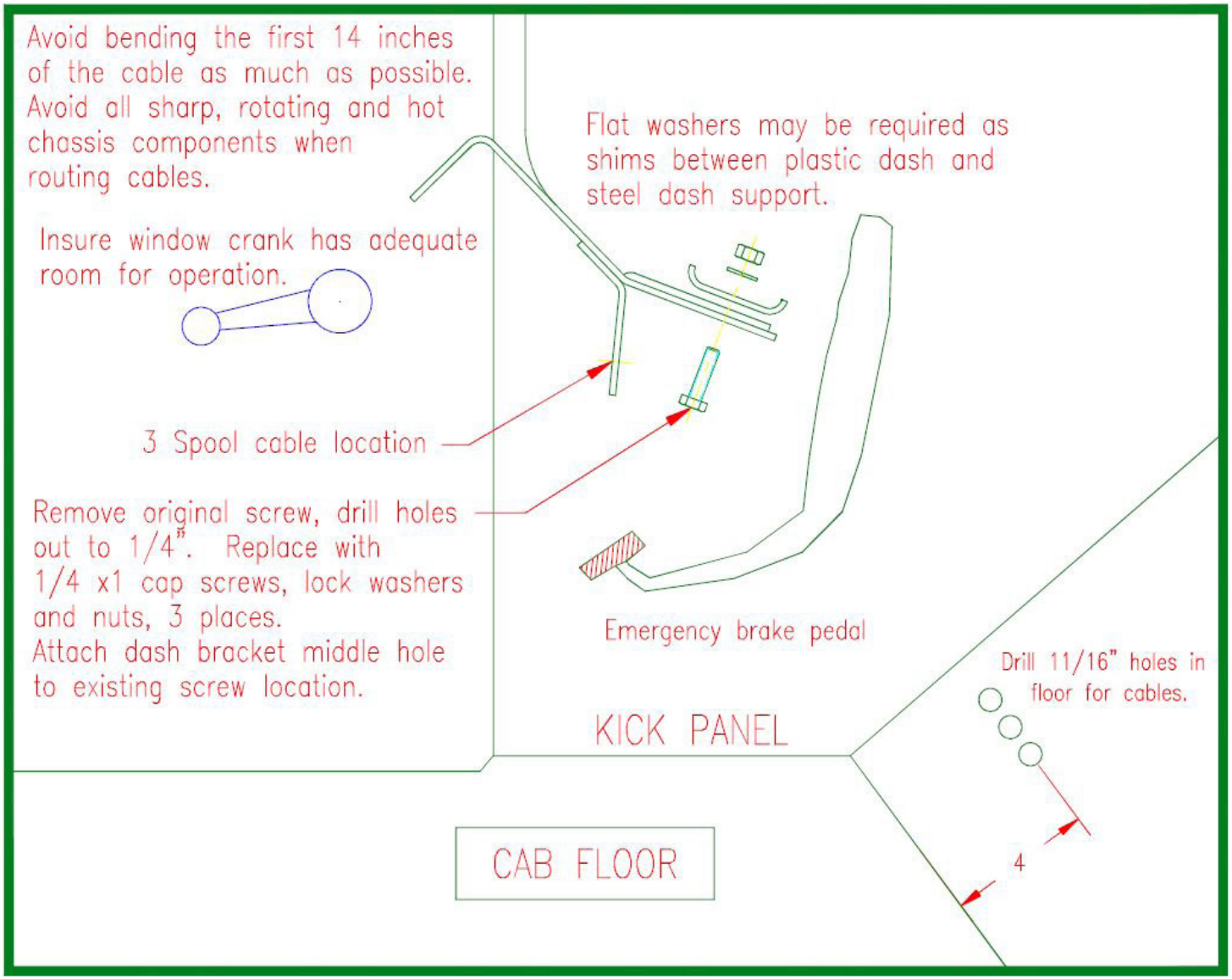
COMMENTS:
CHEVY / GMC DASH BRACKET 2015-

P.O. BOX 248,
SABETHA, KS 66534

TRIPLE C INC.

SIZE	DWG. NO.	REV.
A	10-0805	A

SCALE:1:7 WEIGHT: — SHEET 1 OF 1

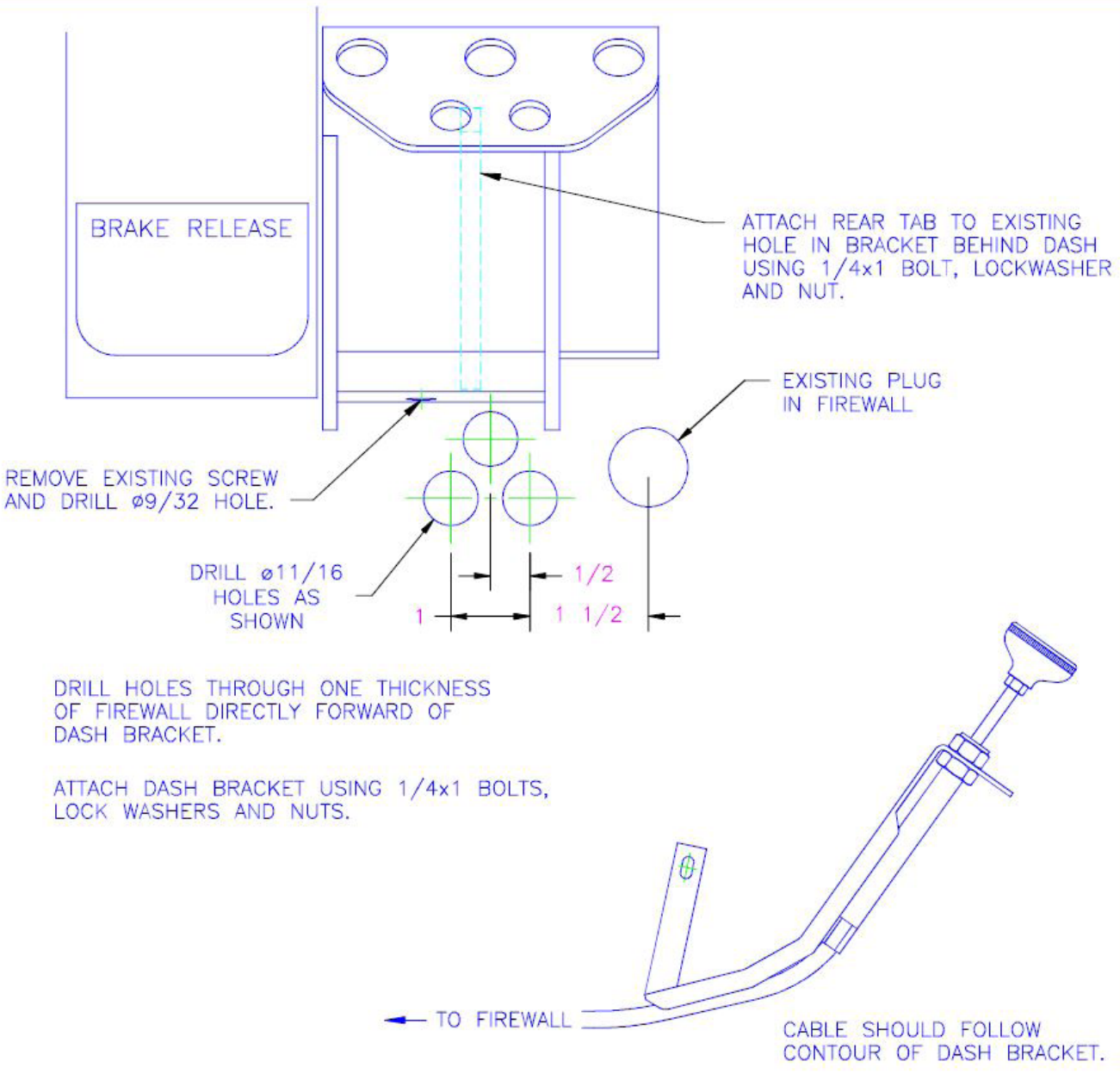


Installation Instructions HD-01 Dash Bracket 1994-2002 Dodge

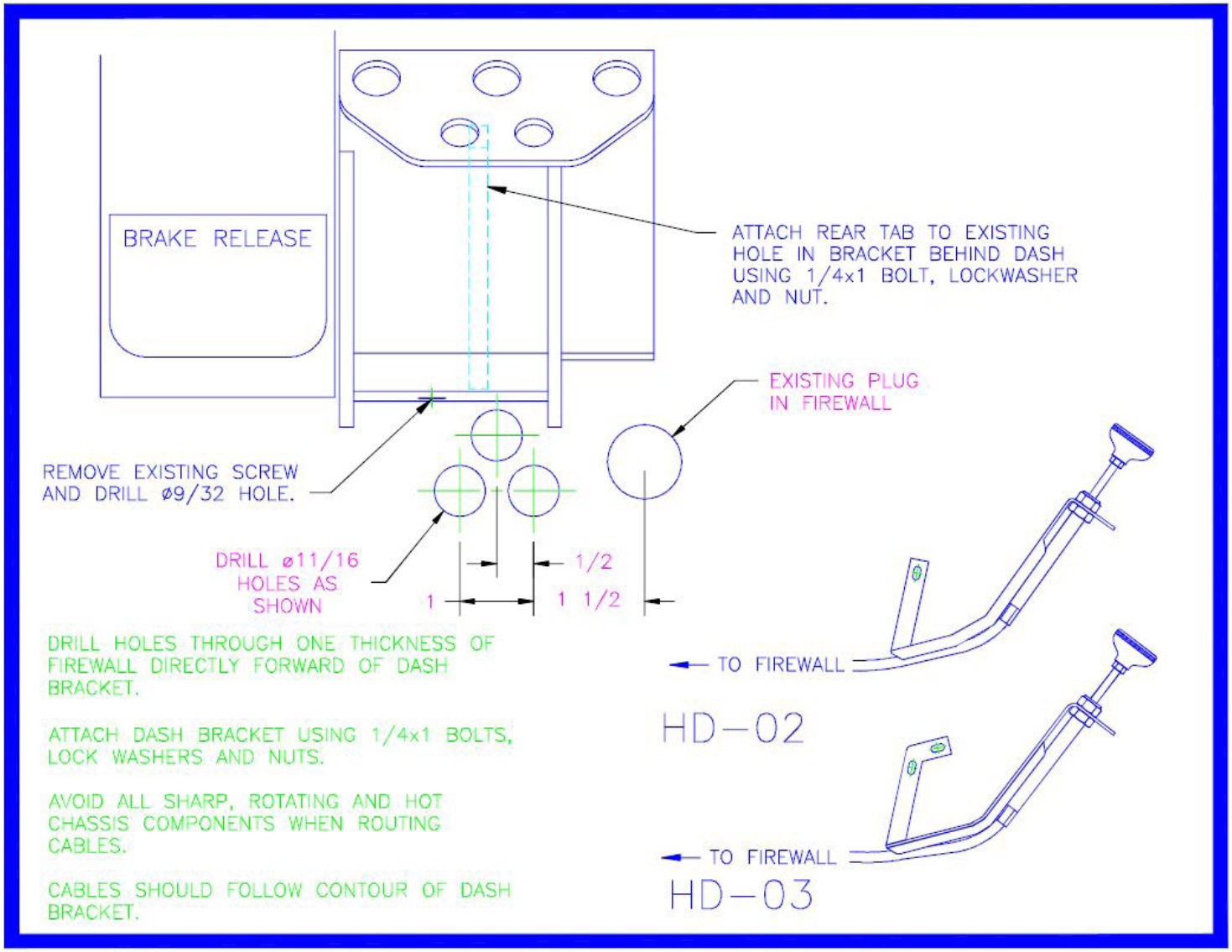
Mount dash bracket as shown. Using cable holes in bracket as a guide, sight towards floor for hole location. Drill holes in floor through one layer of sheet metal only. Locate floor pan/firewall seam under cab and pry apart enough for cables to fit through without pinching cables. Route cables from inside cab, through holes and out between seam.

05/30/01

Installation Instructions HD-02 Dash Bracket 2003 and Newer Dodge



Installation Instructions HD-02/-03 Dash Bracket 2003 and 2010 Dodge



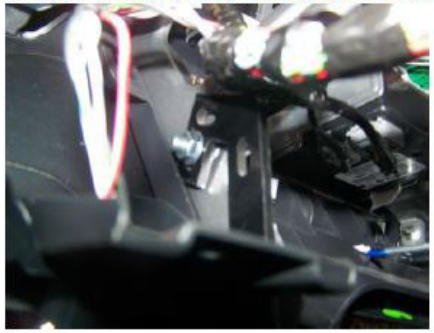
TRIPLE C INC

HEATH 8/06/2014

INSTALLATION INSTRUCTIONS DASH BRACKET 2003-2015 DODGE

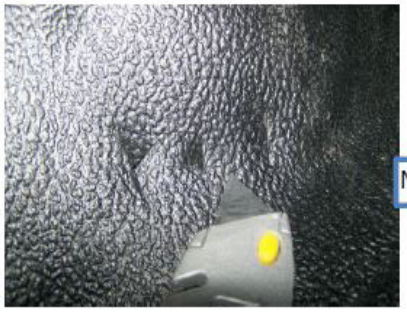
DRAWING NO.	10-0824 B
ASSEMBLY NO.	DB-HD-04
REV A	REVISED PICTURES

ATTACH REAR TAB TO EXISTING
HOLE IN BRACKET BEHIND DASH
USING 1/4 x1 BOLT, LOCK WASHER & NUT

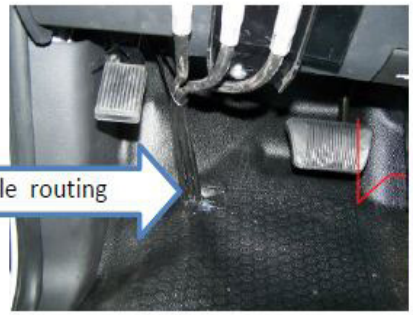


REMOVE EXISTING SCREW
FROM BOTTOM OF DASH
& DRILL 9/32 DIA HOLE
FOR 1/4 x 1 BOLT & NUT

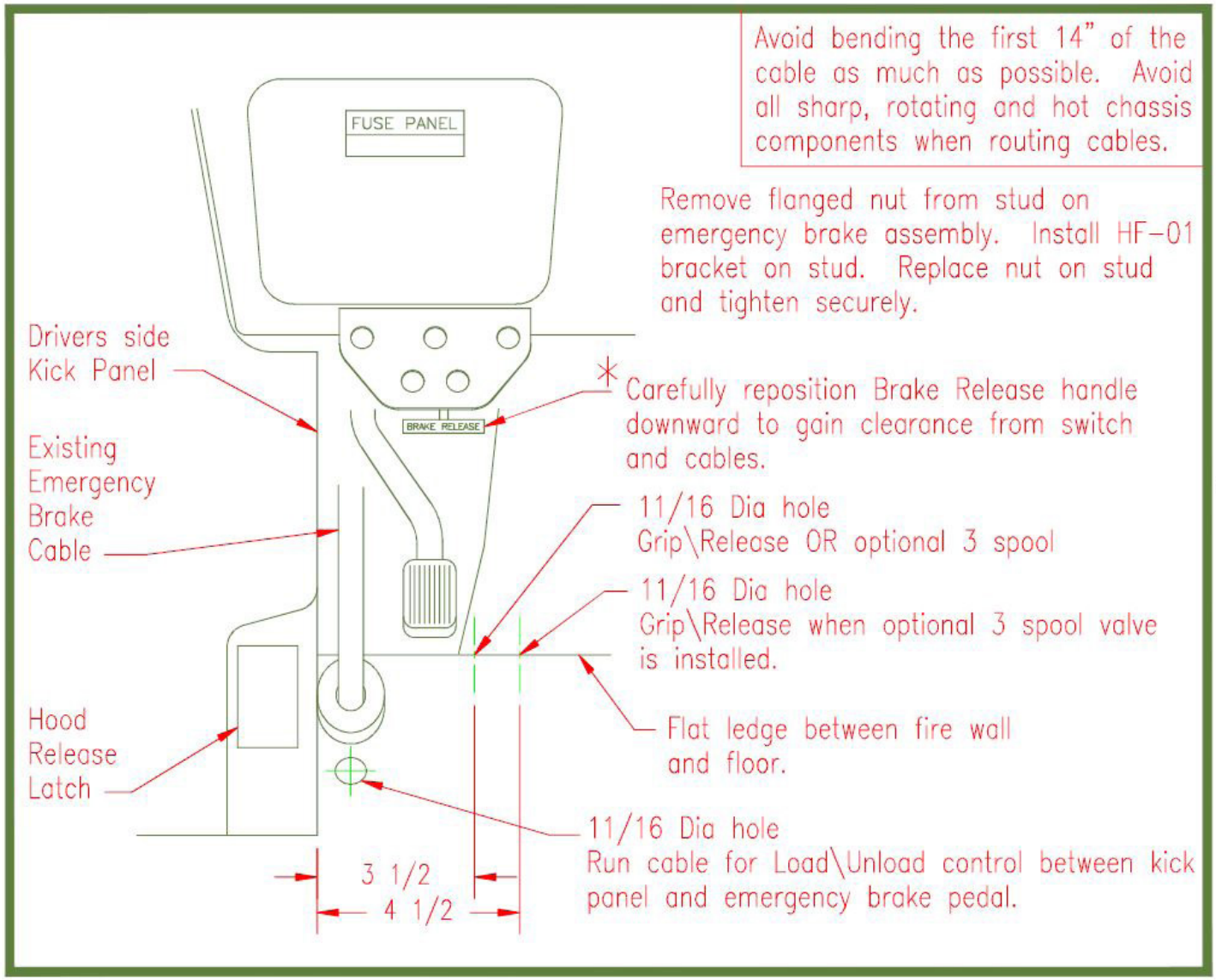
CUT X SHAPE IN FLOOR
TO HELP SEAL AROUND CABLES



TIE UP CABLES FOR LEG ROOM

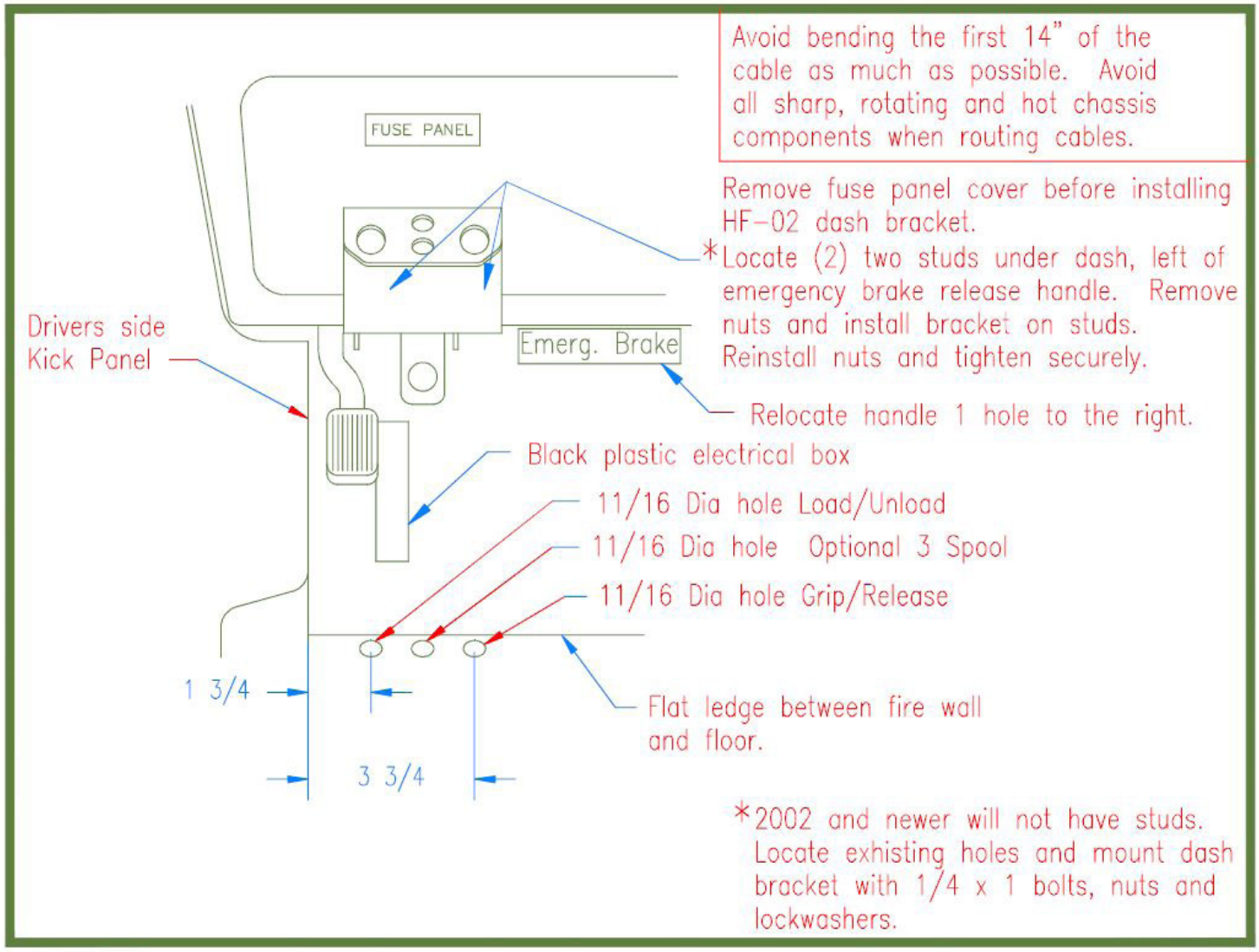


Installation Instructions HF-01 Dash Bracket 1992-1997 Ford



* Use extreme caution when bending or modifying any OEM components. All components must operate without binding, catching, etc.

03/28/05

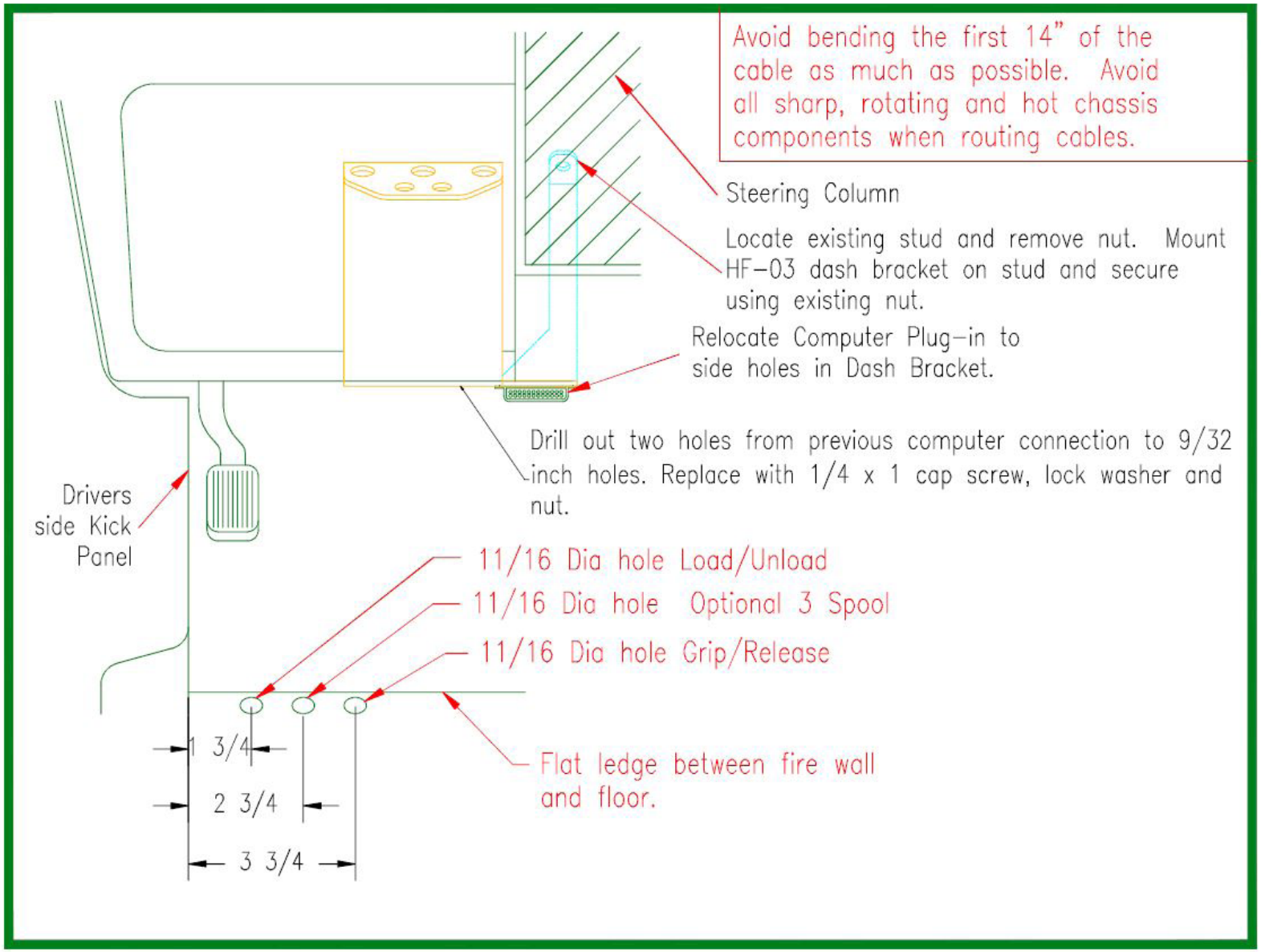


Installation Instructions HF-02 Dash Bracket 1999 & Newer Ford

1999 – 2001, use pre-existing studs. 2002 & newer, use pre-existing holes.

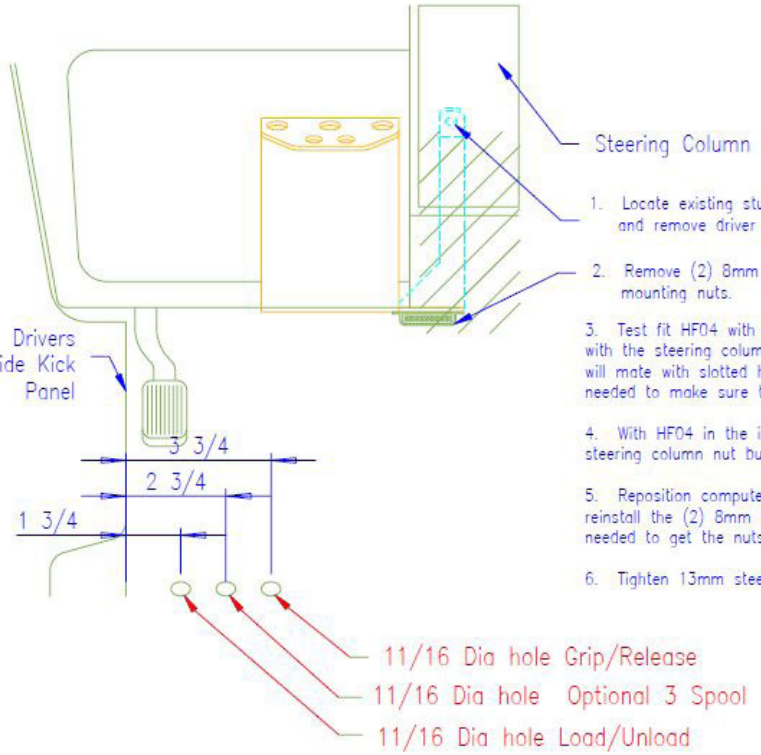
03/28/05

Installation Instructions HF-03 Dash Bracket 2008 Ford



04/17/07

2017 - 2019 FORD



1. Locate existing stud on steering column and remove driver side 13mm nut.
2. Remove (2) 8mm computer plug-in mounting nuts.
3. Test fit HF04 with the hole in the HF04 arm mated with the steering column stud. Computer plug-in studs will mate with slotted holes in HF04. Modification may be needed to make sure that HF04 fits the dash.
4. With HF04 in the installed position, replace 13mm steering column nut but do not tighten yet.
5. Reposition computer plug-in on the plug-in studs and reinstall the (2) 8mm nuts. Note: Some effort may be needed to get the nuts started on the studs.
6. Tighten 13mm steering column nut.

Avoid bending the first 14" of the cable as much as possible. Avoid all sharp, rotating and hot chassis components when routing cables.

	NAME	DATE
UNLESS OTHERWISE SPECIFIED: DRAWN		9/26/2018
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1 BEND ±		
TWO PLACE DECIMAL ± 010 THREE PLACE DECIMAL ± 005		
PART #	Part #	
ASM #	Asm #	
MATERIAL		
DO NOT SCALE DRAWING		

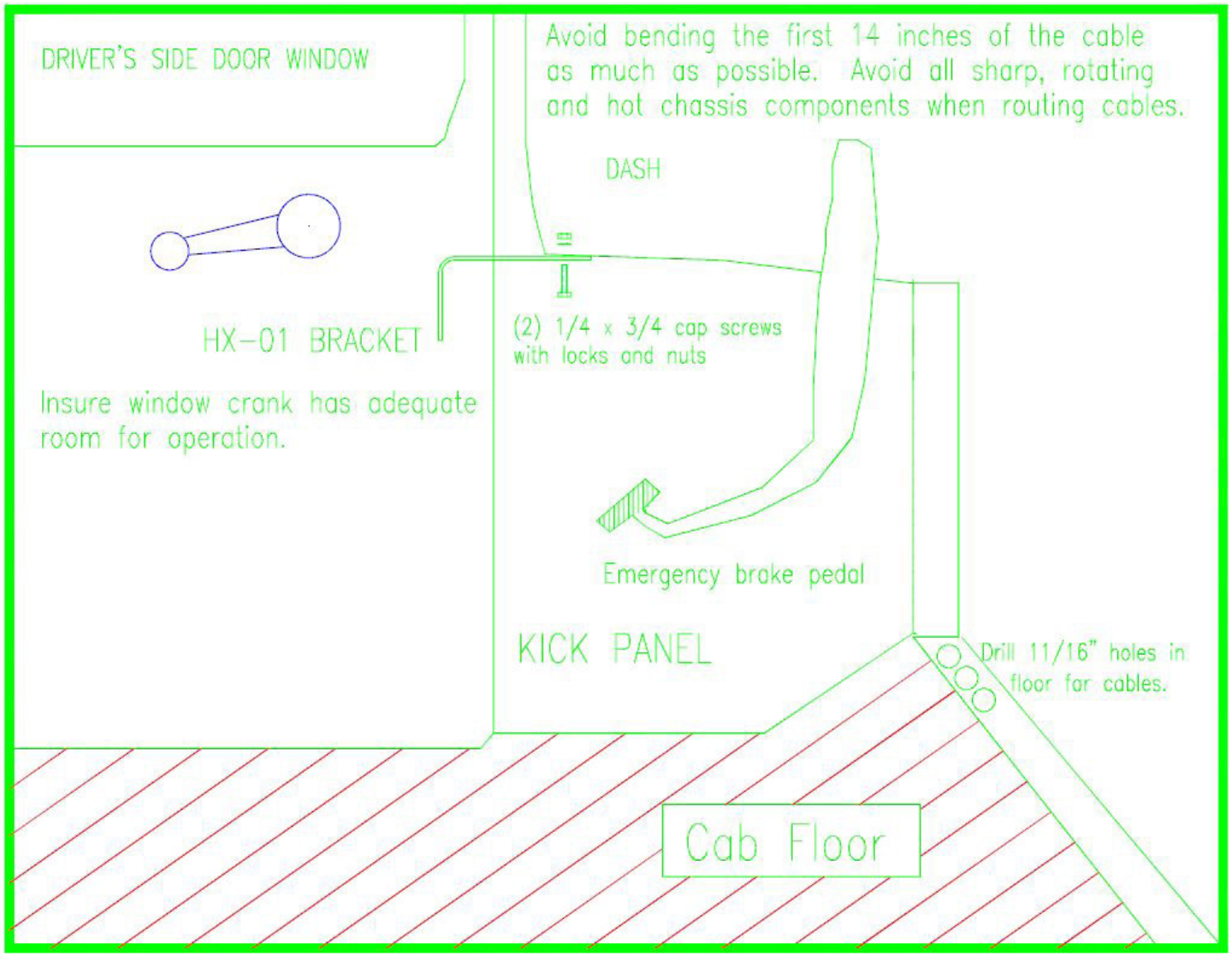
COMMENTS:
INSTALLATION INSTRUCTIONS, HF04 DASH BRACKET

P.O. BOX 248, SABETHA, KS 66534
(785) 284-3674 FAX (785) 284-3931

BALE LIFT HYDRABED

SIZE	DWG. NO.	REV
A	10-0844	B

SCALE: 1:1 | WEIGHT: | SHEET 1 OF 1



Installation Instructions HX-01 Dash Bracket

Pre 1988 Chevy/GMC

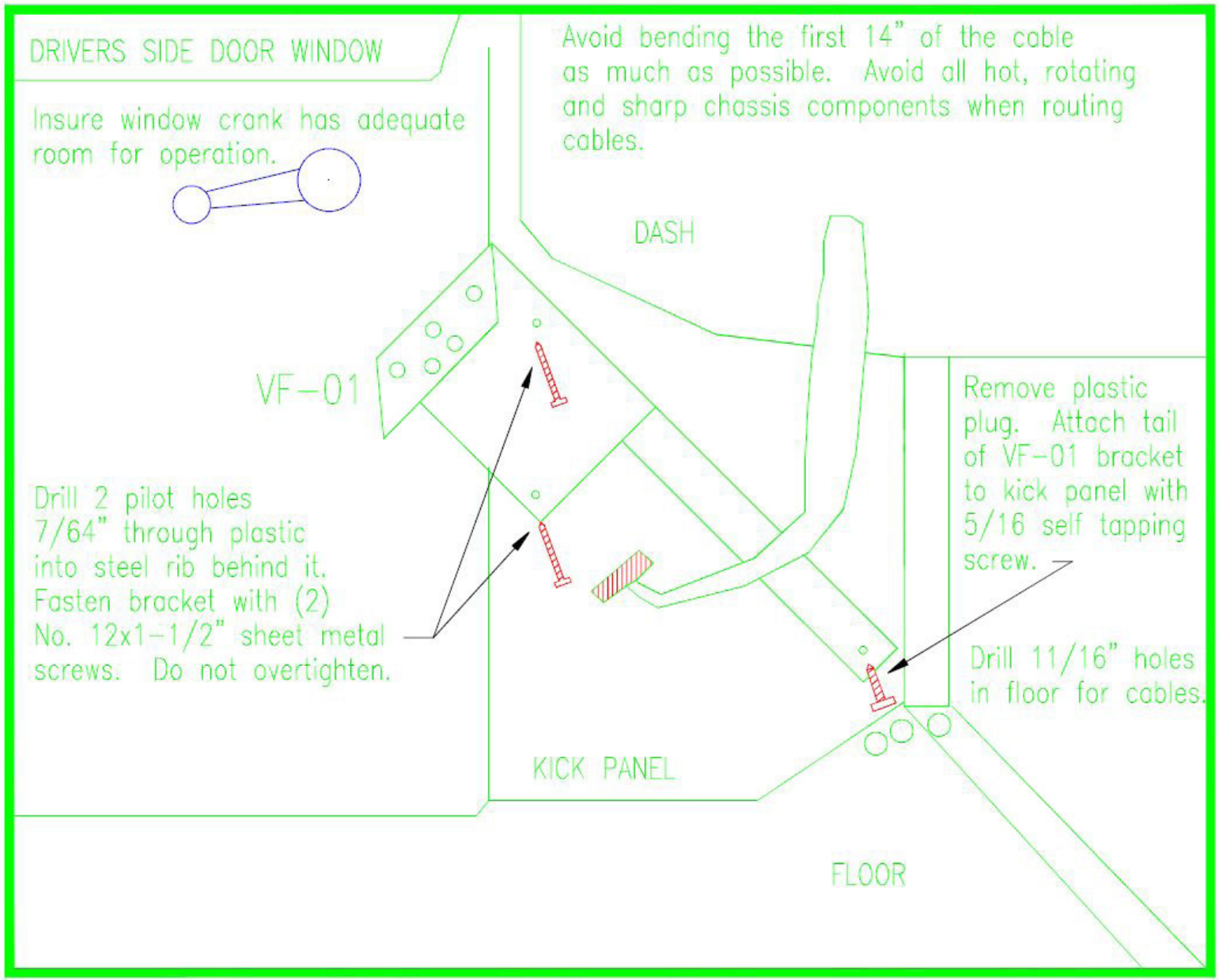
Pre 1987 Ford

Pre 1994 Dodge

RELOCATE HOOD RELEASE TO KICK PANEL BELOW AIR VENT. INSURE AIR VENT OPERATES FREELY.

05/30/01

Installation Instructions VF-01 Dash Bracket 1987-91 Ford



08/09/95

Installation of Engine Clutch Pump Mounting Kit

Tools and materials required:
3/8 drive SAE and metric socket set; SAE and Metric combination wrench set; 36” straightedge ruler, approximately 7 gallons of specified hydraulic fluid.

C1 Prepare vehicle for installation according to directions included in mounting kit.

C2 Install mounting kit according to directions.

C3 Install pump on pump plate using bolts provided. Make certain that the 1/4” spacer pad is between the pump and the plate. Snug pump bolts.

C4 Using straightedge, laser, or other precise alignment methods to align front face of pump pulley with front face of crankshaft pulley. When alignment is correct, tighten pump mount bolts.

C5 Install belts and idler assembly if required. Tighten belts. You are transferring up to 15 Horsepower so belts must be tight.

C6 Recheck pump alignment. Correct if necessary.

C7 Route suction hose from hose barb on bottom of ***HydraBed***® reservoir to inlet side of pump. Avoid all sharp edges and hot or moving components. Connect at each end with provided hose clamp, making certain that the inside of the hose has not become contaminated or obstructed during shipping or installation.

C8 Route the pressure hose from the valve inlet at the top rear of the ***HydraBed***® valve to the outlet of the pump. Tighten the JIC female swivel connector on each end. Do not use ANY thread sealer on these fittings. Do not over tighten. Avoid all sharp edges and hot or moving components. Make certain that the inside of the hose has not become contaminated or obstructed during shipping or installation.

C9 Carefully secure hoses to chassis, avoiding all hot, sharp and rotating parts.

C10 Lightly coat the gasket of the spin-on oil filter with clean oil. Carefully thread filter to body until gasket contact occurs. Hand tighten an additional 3/4 turn.

C11 Connect the switched wire from the control panel in the cab to the lead on the pump clutch coil. Refer to EL-SK-100 instructions (pages 7-11) for wiring installation.

C12 Fill the ***HydraBed***® reservoir to the check plug on the driver’s side of the oil reservoir at the front of the ***HydraBed***® with specified hydraulic fluid on page 5.

IMPORTANT: Leave fill cap off until initial run-in has been performed.

CLUTCH PUMP SWITCH KIT WIRING INSTRUCTIONS

EL-SK-100

There are recommended methods of obtaining electrical power.

1 Use an upfitter switch (If vehicle is equipped. See pg 8-10 for possible upfitter wiring locations)

2 Use an Add-A-Fuse (EL-AC46044 mini/EL-AC46177 micro2 provided in kit) to tap into an 'Ignition On' (keyed) circuit.
NOTE: All clutch circuits will require a 10A fuse from power via add-a-fuse or an in-line fuse holder, including upfitter circuits.

Using an OEM upfitter switch

Vehicle manufacturers provide customer access circuits with upfitter (auxiliary) switches. It is recommended to use these upfitter switch circuits if equipped. (If the vehicle is not equipped with upfitter switches, skip to "**Using an Add-A-Fuse assembly**" below.)

Look in the vehicle owner's manual to identify the corresponding wire color to the desired upfitter switch.

- Use a blue (14-18 AWG) heat shrink butt connector to connect the selected upfitter circuit wire to the 10A in-line fuse holder.
- Connect the provided weatherpack female receptacle to the pump clutch wire and route to 10A in-line fuse holder.

If the customer desires the provided independent ON/OFF toggle switch, use the 'Ignition On' (KEYED) wire that is bundled with the upfitter wires as your power source rather than an upfitter switch.

- Route power to the toggle switch from the 'Ignition On' wire.
- The yellow (10-12 AWG) heat shrink female spade connector will need to be crimped with the provided 8 foot black wire and the red lead from the 'System On' LED. Route the 8 foot red wire to the pump clutch and connect the weatherpack female receptacle to the male weatherpack coming from the pump clutch. The white lead from the 'System On' LED indicator is to be connected to the nearest sufficient ground. The yellow (10-12 AWG) heat shrink female spade connector will connect to the remaining terminal of the toggle switch.

Below are some possible examples of upfitter switches.

Using an Add-A-Fuse assembly

If the vehicle is not equipped with upfitter switches, determine whether mini fuses or micro fuses are used and use the corresponding Add-A-Fuse assembly.

First, check the owner's manual to determine the 'Ignition On' (keyed) circuits and use appropriate judgement to locate a circuit that is safe to use.

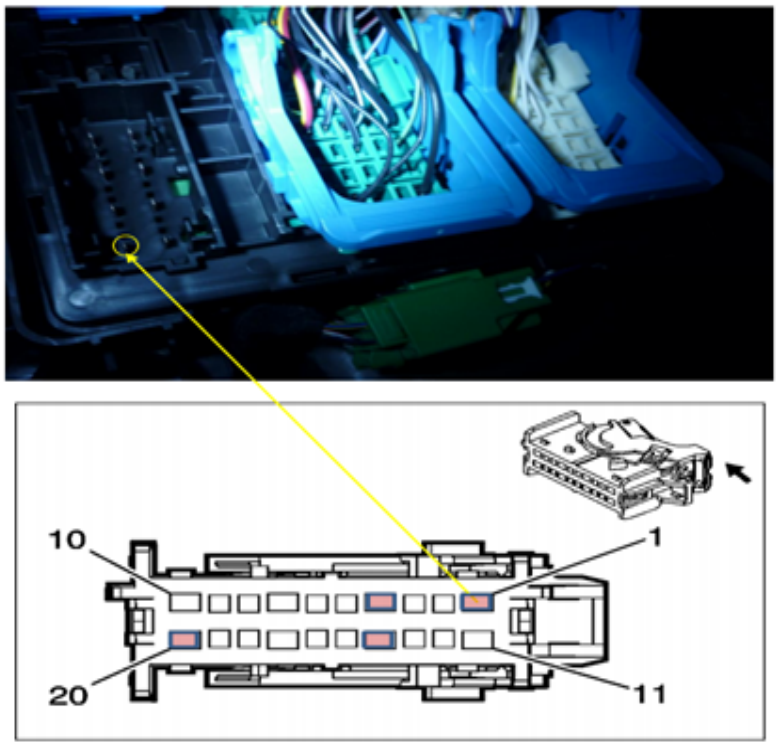
CAUTION: Certain vehicle circuits, such as automatic headlights, are sensor-controlled for automatic ON and OFF functions. DO NOT utilize such circuits to obtain power.

- Use a 12V test light to verify if this KEYED circuit is appropriate. To do this, connect the clip of your test light to the negative battery terminal or another known ground such as the vehicle's frame and probe the identified circuit terminals while an assistant cycles the ignition key on and off for verification.

- When an appropriate power source is located and you have safely connected it, use the blue (14-18 AWG) heat shrink butt connector on the Add-A-Fuse assembly to connect the red 8 foot wire to the power source.

- Route the red wire from the source into the cab to the ON/OFF switch that is mounted to the dash bracket and connect to one of the two terminals on the switch.

- The yellow (10-12 AWG) heat shrink female spade connector will need to be crimped with the provided 8 foot red wire with the weatherpack and the red lead from the 'System On' LED. Connect this terminal to the open terminal on the switch. Connect the female weatherpack receptacle to the male weatherpack coming from the clutch pump. The white lead from the 'System On' LED indicator is to be connected to the nearest sufficient ground. See drawing 10-0931-14, included with switch kit, for illustration.



Pin #1, 4, 14 and 20 are used for Upfitter added/configured circuits

NOTE: Refer to the connector pin-out table for connector and terminal part number information (next page). You will need the connector kit and the Terminated leads (highlighted) to utilize the Aux Switches.

Chevy/GMC cont:

2014+:

Keyed ignition circuits are available for use in the ICEM (formally referred to as the Mid-BEC or MBEC which is located in the LH foot well, near or below the parking brake (see Figure 1). Purchase of OEM Connectors 13924036 and 19328970 is recommended to utilize this keyed ignition location. Reference GM UI Bulletin #115d for more details.

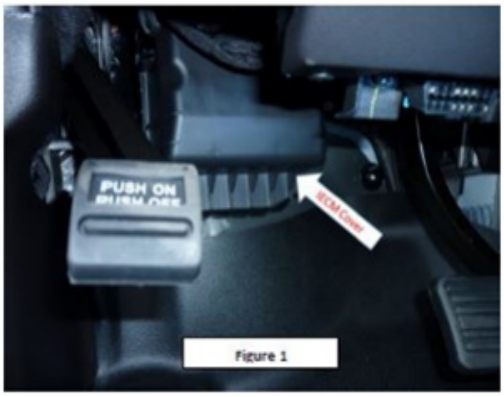
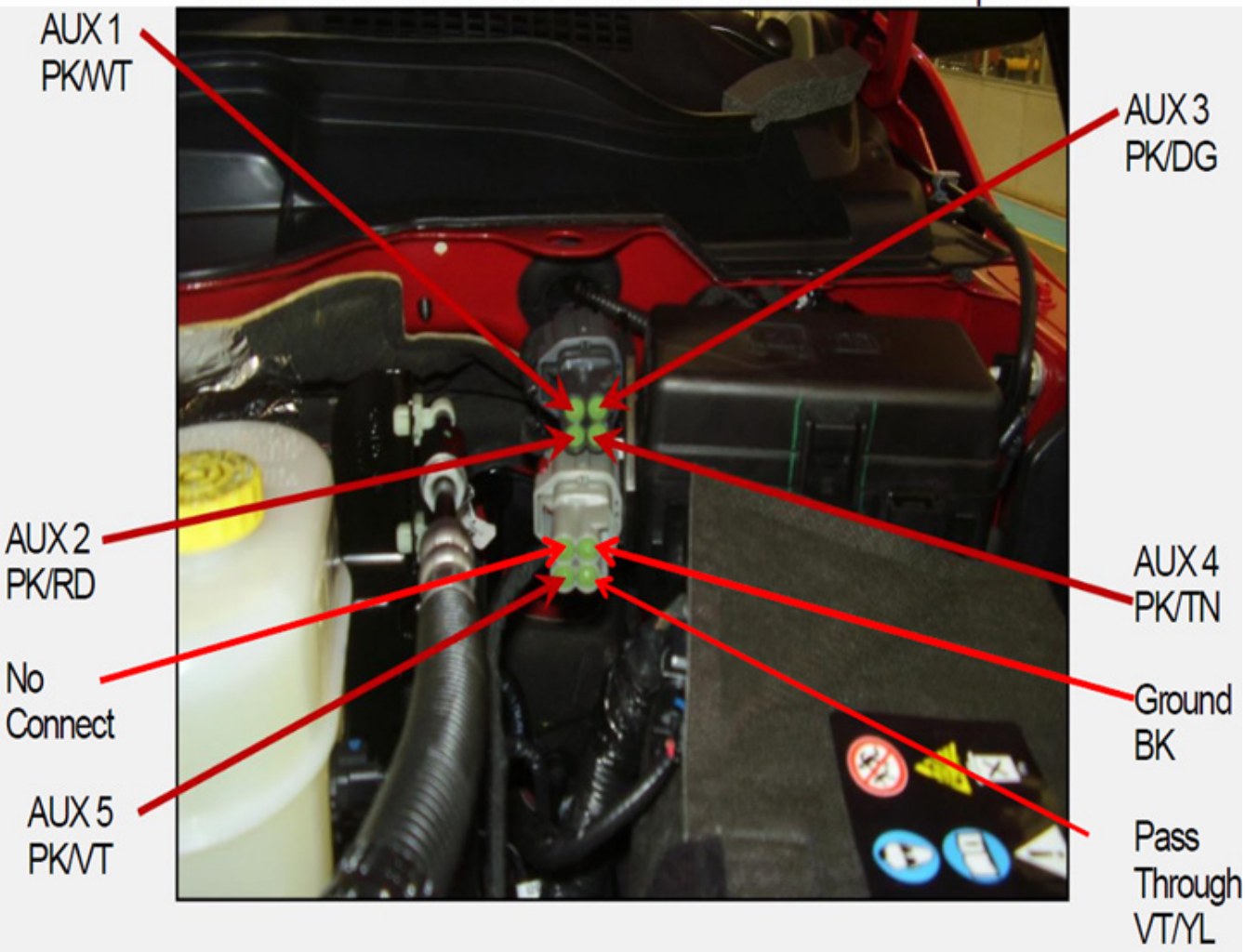


Figure 1

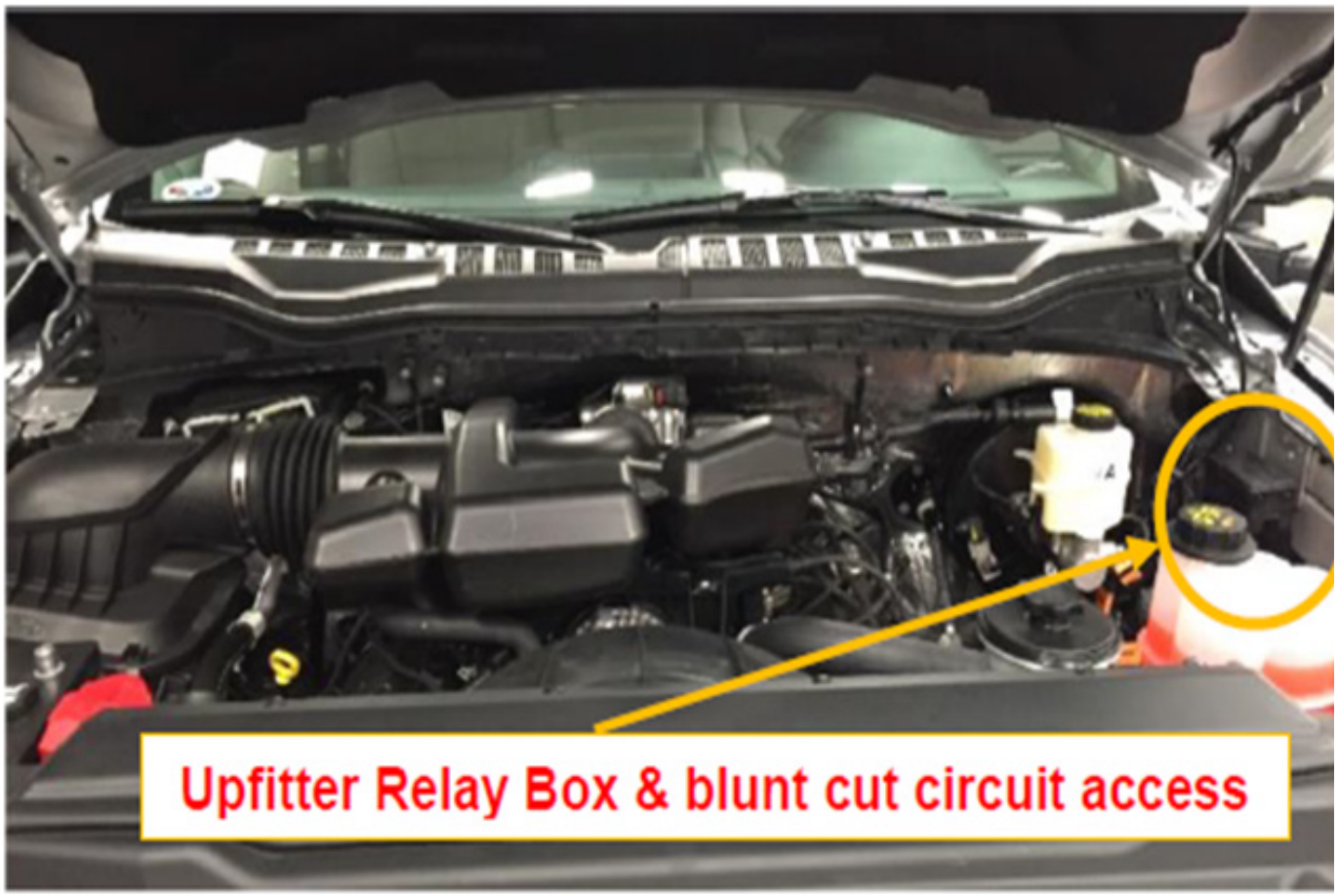
DODGE UPFITTER SWITCH CIRCUITRY

Here is the location of the connector with the switch outputs:



FORD UPFITTER SWITCH CIRCUITRY

Wiring for the upfitter switches is located under/behind the relay pack on the drivers side. On vehicles with dual batteries, unmounting the relay pack will allow additional access to the wires.



Installation of ELECTRIC OVER HYDRAULIC

These instructions are to assist you in the installation of the Electric over hydraulic (E/H) system on your ***HydraBed***®. Thoroughly read the instructions prior to installation to give you a better understanding of how the system is to be installed.

WARNING: Before installation, make sure the vehicle has cooled down to prevent injury from burns.

Item No.	Part No.	Description	Quantity	
1	E/H Cover Assembly		1	
2	HD-RUBBER ETRIM .1875	Rubber Trim	1	
3	EL-.375 INSULATOR STUD	Red Terminal Insulator	1	
4	HA-PR096	Pressure Hose	1	
5	HA-SU060	1” Suction Hose	1	
6	FP-EH-LATCH BRKT	Latch Bracket	1	

7	HD-CH 1 HOSE CLAMP	Hose Clamps	2	
8	EL-TERMFUSEBLOCK	300A Fuse Block	1	
9	EL-1GAR-192	Red (+) Cable	1	
10	EL-1GAB-192	Black (-) Cable	1	
11	BO-1/4x3/4 BHCS BO-1/4 FN	1/4” x 3/4” Button head bolt 5/16” Flanged nut	2 2	
12	EL-W15-16-26T-9/0	16ga white/black wire	6 feet	
13	EL-SBC922005	Butt Connector	1	

14	EL-RT552105	#10 Ring Terminal	1	

TOOLS NECESSARY:

- Drill with 5/16” metal drill bit
- 5/16”, 3/8”, 7/16”, 1/2”, 9/16” Sockets/wrenches
- 1/8”, 3/16” Allen wrenches
- Hand grinder with cutoff wheel
- Phillips screw driver
- Flat head screw driver
- Tape Measure
- Eye protection

GENERAL NOTES:

- It is recommended that vehicles have two batteries.
- Motor is thermally protected at 239° Fahrenheit and reset at 170° Fahrenheit.
- It may be necessary to adjust clevises for electric actuators at valve for full valve spool travel. It will be necessary to loosen and Loctite ALL clevises for electric actuators once full valve spool travel is verified.

INSTALLATION INSTRUCTIONS:

1 Remove knockout from ***HydraBed***® floor using personal safety eye protection and a hand grinder with cut off wheel. Add rubber edge trim (***ITEM 2***) to protect hoses and wires. Using a 3/16”allen wrench, remove the two (2) button head bolts securing the inner end of the oil reservoir. Figure 1

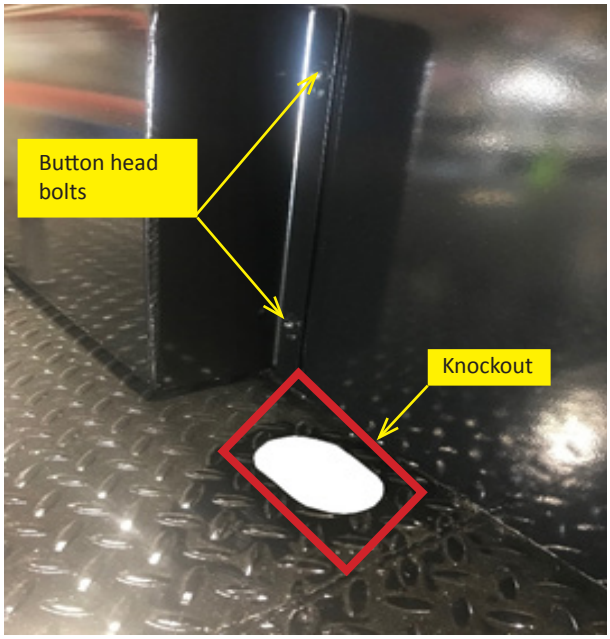


Figure 1

2 Position the E/H cover assembly (***ITEM 1***) with the slots in the hinged portion of the assembly aligned to the slots in the oil reservoir where the button head bolts were removed. While making certain the top of the E/H cover and hydraulic reservoir are level, replace the button head bolts to secure the cover and reservoir to the headache rack filler sheet. Figure 2

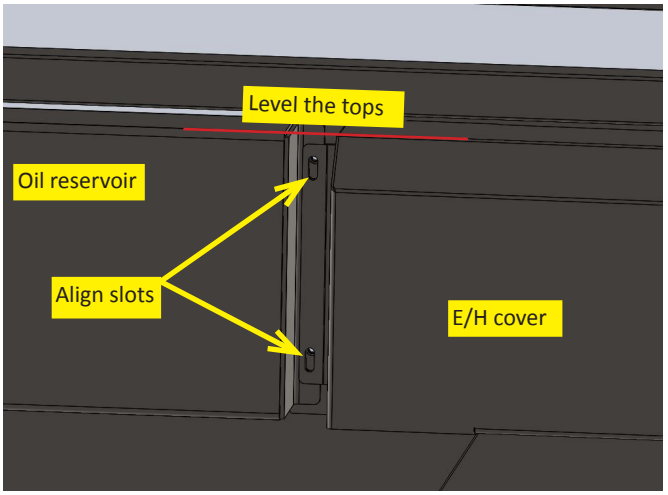


Figure 2

3 Using the latch as a positioning tool, close the E/H cover assembly and mark the two mounting locations for the latch keeper. Drill two 5/16" holes in the headache rack filler sheet at the marked locations and secure the latch keeper with two 1/4" x 3/4" button head bolts (***ITEM 11***) and two 1/4" flanged nuts (***ITEM 11***). Minor adjustments may be needed on the latch to insure proper latch closure. Use the latch mounting screws and E/H cover handle mounting screws to make necessary adjustments. Figure 3 & 4

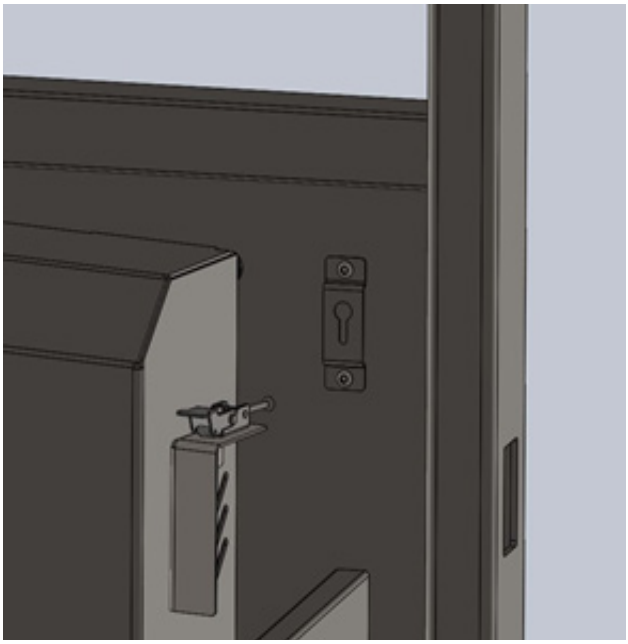


Figure 3

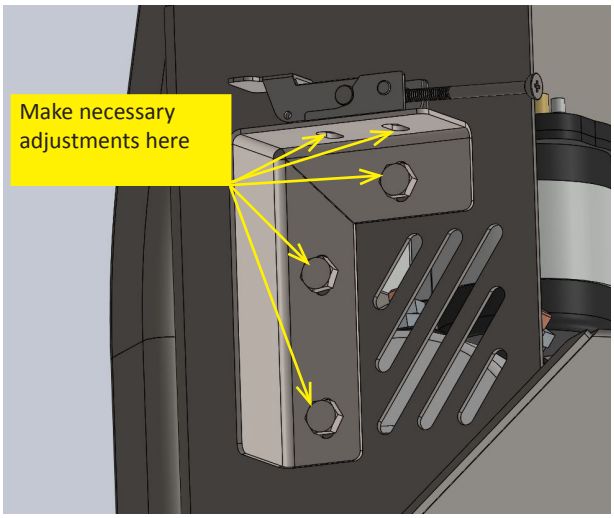


Figure 4

4 Attach one end of pressure hose (***ITEM 4***) to the 90° adapter on the pump. Route the hose through the knockout hole and attach the other end to the 90° adapter on the valve using a 1-1/16" wrench. It may be necessary to remove the cover from the hinge plate to give adequate clearance to tighten the pressure hose fitting. Figure 5

5 Route the 1" suction hose (***ITEM 5***) through the knockout hole and attach to the oil reservoir hose barb fitting and to the pump hose barb fitting using two hose clamps (***ITEM 7***). Tighten with flat screw driver or 5/16" nut driver to 20 ft/lbs. Figure 5

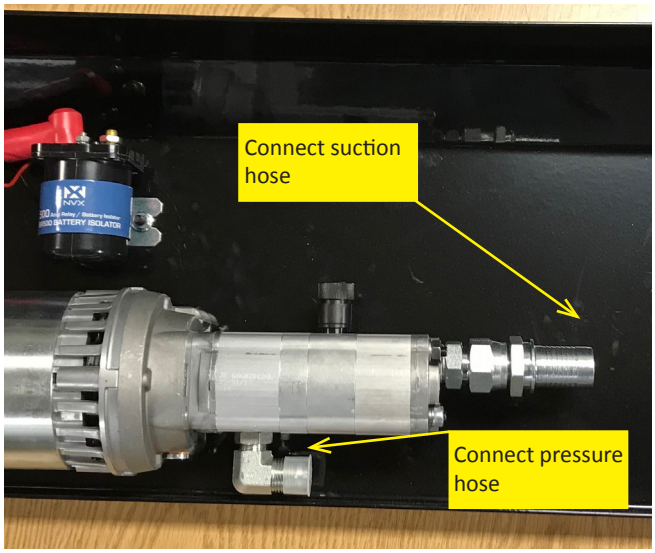


Figure 5

6 Connect 1 gauge black cable (***ITEM 10***) to the motor negative stud and route through the knockout to the vehicle negative battery post and connect it to the battery. Figure 6

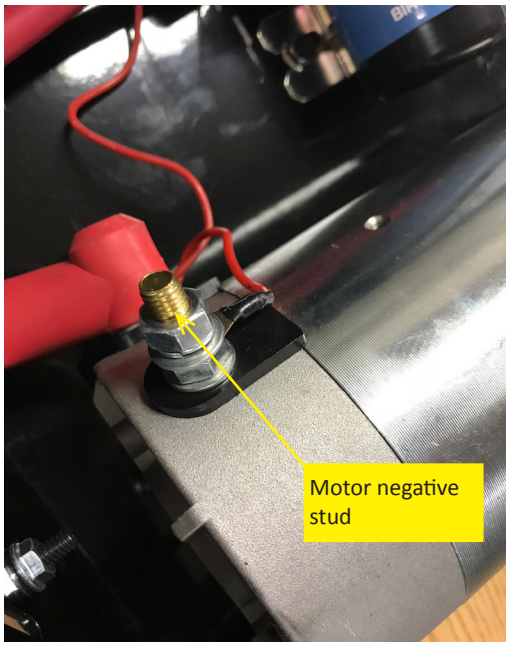


Figure 6

7 Attach the fuse block (***ITEM 8***) to the positive battery post. Thread the red rubber boot (***ITEM 3***) at one end of the 1 gauge red cable (***ITEM 9***), connect the cable end to the open large stud on solenoid and route the cable through the knockout to the vehicle battery and connect it to the fuse block. Figures 7 & 8

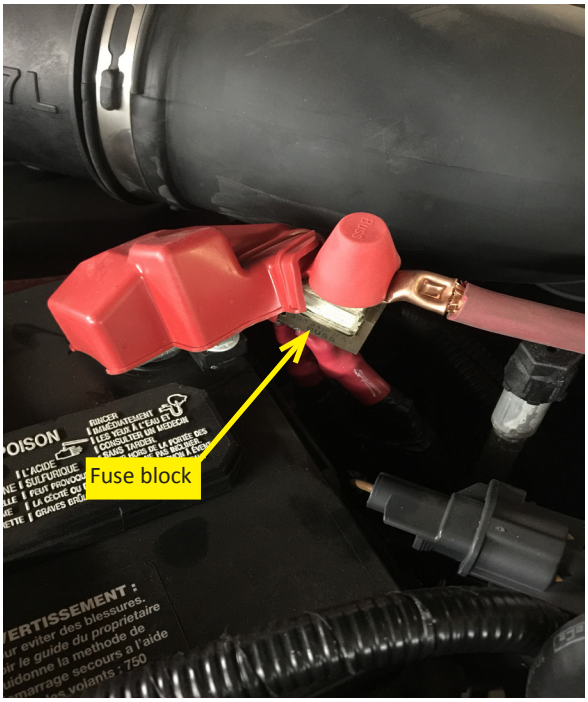


Figure 7

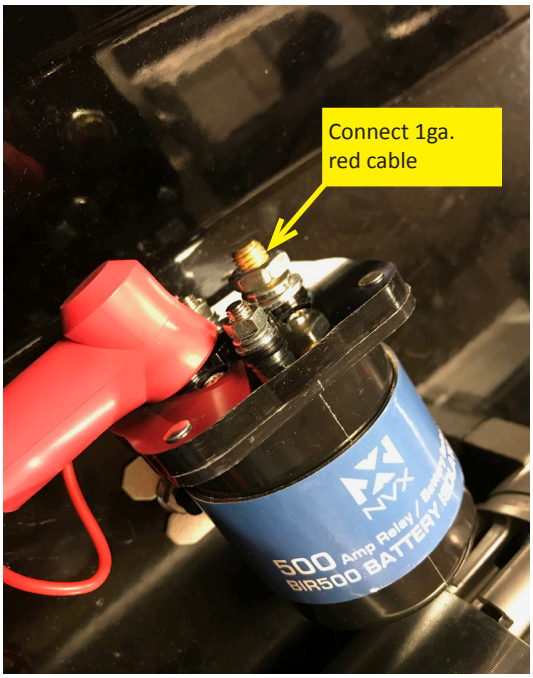


Figure 8

8 Connect the white/black wire (***ITEM 12***) to the white/black wire of the electric controls system using the butt connector (***ITEM 13***). Route the connected wire through the knockout to the open small stud on the solenoid. Cut off excess wire, connect the ring terminal (***ITEM 14***) and connect to the open small stud. Figure 9

Note: This application no longer uses the relay that was used in previous E/H motor installations.

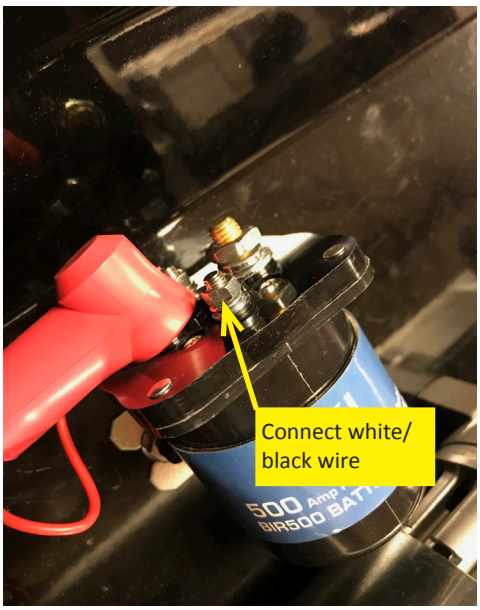


Figure 9

9 Use zip ties, not provided, to properly position all cables, hoses and wires along their route. Make certain that routed items do not contact any moving items or items that may become hot.

10 Fill oil reservoir with hydraulic fluid (see page 25 for specified hydraulic fluid). It is recommended to do the initial run-in of the ***HydraBed®*** at this time.

IMPORTANT: Leave fill cap off until initial run-in has been performed.

Initial Start-Up and Run-In Procedure

For Your Safety
Please carefully follow ALL directions in the order listed.

Important Safety Notice: MANUALLY lower the Hydra Bed® arms to the most rearward position before proceeding!

D1 With pump switch OFF, start the vehicle and carefully observe the pump installation for any interference with existing engine components. Correct any problems.

D2 With the vehicle engine running at an idle, engage the pump clutch switch from the driver's seat. If the sound of the pump doesn't change, indicating oil flow, within 15 seconds from initial clutch engagement, turn pump clutch off and check oil supply at the inlet port of the pump.

D3 When oil flow has begun through the system, allow the vehicle to run at an idle for two minutes with the clutch engaged. This will circulate the system oil through the filter, trapping any contamination.

D4 Engage and disengage the switch 20 times with engine at an idle, and again 20 times with engine at 1500 RPM.

WARNING: DO NOT PROCEED WITH THESE INSTRUCTIONS UNTIL YOU VISUALLY VERIFY THAT THE BALE HANDLING MECHANISM IS IN IT'S FULL REARWARD (TOWARD GROUND, AWAY FROM Vehicle CAB) POSITION, THE OPERATOR IS IN THE DRIVER'S SEAT, AND THAT NO OTHER PERSONNEL ARE WITHIN TEN FEET OF ANY PORTION OF THE Vehicle AND/OR HYDRA BED® !!

D5 With engine idling and clutch engaged, activate the "UNLOAD" control. This will send oil to the base end of the main lift cylinder. Because you have previously lowered the arms completely to the ground, manually, the cylinder is already fully extended. There should be NO movement of the bale handling assembly during this activity. The cylinder will internally allow trapped air to exit at the rod end port. After 20 to 30 seconds, the engine will pull down noticeably, indicating that the air is purged from the cylinder and it is now filled with oil.

NOTE: Your ***HydraBed®*** hydraulic system is designed to INTERNALLY bleed any and all accumulated air. It is NEVER necessary to loosen ANY fittings to allow trapped air to escape.

D6 Activate the "LOAD" control to bring the arms to their forward position. This will evacuate any trapped air pockets.

D7 For the 3100, 3200 and 3300 ***HydraBed®***, activate the "UNLOAD" control to hydraulically move the arms to the vertical (straight up) position.

For the 3250, 3350 and 3550 ***HydraBed®***, activate the "UNLOAD" control to hydraulically move the arms to the rearward and down position.

D8 Activate the “GRIP” control. The driver’s side arm should begin to move in. When it is completely in, the passenger side arm should also begin to move in. (During this operation, the engine will be pulling down, as it will take 700 to 1000 psi to complete this operation.)

D9 Activate and hold the “GRIP” for a minimum of 30 seconds after both arms are fully in.

D10 Activate the “RELEASE” control to spread the arms out and repeat step D9, this time engaging and disengaging the clutch switch 20 to 30 times and varying the engine RPM from idle to 2000 RPM during the 30-second period.

D11 Repeat step D10, concluding the step with the arms slightly out from 90 degrees to the rear cross tube.

D12 Activate the “LOAD” until the arms are 1/2 inch above the home or stowed position.

D13 Measure the distance from each arm to the edge of the ***HydraBed***®. If the distances are not equal, raise the arms and repeat step D9.

D14 If the distances are still not equal, activate the “UNLOAD” control to stand the arms straight up and refer to pages 21 and 22 for arm cylinder length adjustment if necessary.

D15 Activate the “LOAD” to take the arms to their home or stowed position. Activate the ”GRIP” control to grip the bed with arms. Turn off the pump switch and the vehicle engine.

D16 REFILL the reservoir to the check plug. (Total capacity of the system is approximately 7 gallons.) Check the pump installation for belt tension and alignment. Check all connections for leakage. Recheck the hose and cable routing and fastenings.

D17 Activate the appropriate control to relieve any trapped pressure at the hydraulic quick couplers at the rear of the bed. Connect a 3000-psi hydraulic pressure gauge to a coupler. Start the vehicle engine and engage the pump. Activate the hydraulic control to pressurize the coupler to which the gauge is connected. Have an assistant read the gauge while the vehicle is running at approximately 1500 rpm. Pressure should be 2450 to 2550-psi. Contact the factory if readings do not fall within this range.

Arm Cylinder Length Adjustment

The ***HydraBed®*** arms are powered AND synchronized by a rephasing pair of hydraulic cylinders. The passenger arm cylinder of that pair is equipped with a threaded rod/clevis arrangement. This feature provides a means of adjusting the passenger arm position in relation to the driver's arm position. During the initial installation of the bed, adjustment of the passenger arm cylinder length may be necessary for accurate synchronization which is defined as both arms contacting the sides of the bed at the same time.

Proper cylinder length adjustment steps are:

1 Make certain ALL air is purged from both arm cylinders.
- **a.** **DO NOT** disconnect or loosen any hydraulic fittings! The ***HydraBed®*** cylinders are self-purging.
- **b.** With the pump engaged and the arms in their fully rearward position (fully upward on all 7' wide models ending in "00"), activate and hold the GRIP function for 30 seconds. This allows both arm cylinders to fully extend.
- **c.** At this fully extended (arms fully gripped) position, the cylinder rephasing function is enabled and any trapped air is purged by the hydraulic flow moving through the circuit.

2 Activate the LOAD control to bring the arms within 1 inch of the stowed (home) position.

3 Activate the GRIP control until an arm just touches the bed side.

4 If both arms are touching the bed side evenly, no adjustment is necessary.

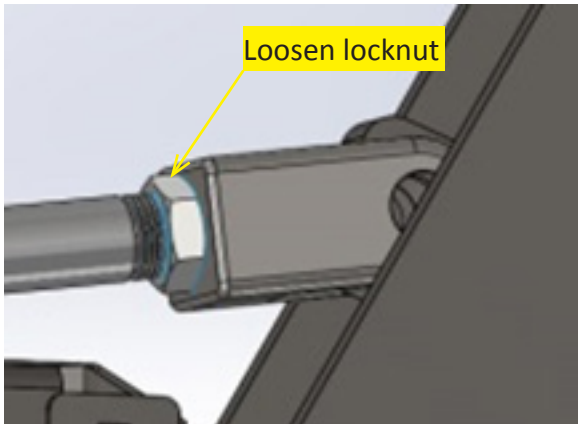
5 If only the Driver's arm is touching, measure and record the gap between the Passenger arm and bed side, proceed to **STEP 7**.

6 If only the Passenger arm is touching, measure and record the gap between the Driver's arm and bed side, proceed to **STEP 10**.

7 **START HERE IF DRIVER'S ARM IS TOUCHING BEFORE PASSENGER ARM**: After moving the arms to a rearward position, activate the RELEASE control until the passenger cylinder clevis locknut is accessible. Turn system and vehicle engine OFF.

8 Using a 1-5/8" open end wrench, loosen the locknut.

9 Using a 1" open end wrench, turn the passenger cylinder shaft OUT of the clevis (top of shaft will rotate TOWARD the bed). One full revolution of the shaft will move the passenger arm tip toward the bed side approximately 1/2".



10 **START HERE IF PASSENGER ARM IS TOUCHING BEFORE DRIVER'S ARM**: After moving the arms to a rearward position, activate the RELEASE control until the passenger cylinder clevis locknut is accessible. Turn system and vehicle engine OFF.

11 Using a 1-5/8" open end wrench, loosen the locknut.

12 Using a 1" open end wrench, turn the passenger cylinder shaft IN to the clevis (top of shaft will rotate AWAY from the bed). One full revolution of the shaft will move the passenger arm tip away from the bed side approximately 1/2".

13 Re-tighten the clevis locknut.

14 Re-check for accurate synchronization and repeat above steps as necessary.

HYDRABED® OPERATING INSTRUCTIONS

HydraBed® OPERATING INSTRUCTIONS for the loading and unloading of 1 or 2 large round bales weighing up to 3000 pounds each. (See cautions about exceeding gross vehicle weight, gross axle weight and /or gross tire weights on page 3 of this publication.)

LOAD

MAKE CERTAIN THAT THE UPPER SURFACE OF THE UNIT IS CLEAR.
(Spinners not required for bale loading)

1 Turn system ON. Indicator light will indicate pump activation.

2 Activate UNLOAD control. The complete arm assembly will raise out of the stowage areas and rotate rearward.

3 When the outer ends of the bale grabbing arms are at the center of the bale to be lifted, release UNLOAD control. Arms will stop their rearward motion.

4 To grip bale, activate GRIP control until arms have squeezed bale sufficiently. Release GRIP control.

5 To raise bale, activate LOAD control until bale is resting solidly on the flat surface of the ***HydraBed***®. Release LOAD control.

6 If you desire to haul only 1 bale, turn OFF system with the switch.

7 If you desire to haul a second bale, activate RELEASE control until the bale grabbing arms have released bale #1.

8 To load the second bale, repeat steps 3 and 4, then activate LOAD control until bale #2 touches bale #1 and pushes it forward into firm contact with the headache rack.

9 Turn off system with the switch.

FAILURE TO SHUT OFF CLUTCH WILL CAUSE IT TO BE DAMAGED AT HIGHWAY SPEEDS.

UNLOAD

To unload bales, reverse the previous steps 1 through 9.

UNROLL

SPINNERS REQUIRED

1 To unroll bale, insert spinners in bushings near the outer end of the bale grabbing arms. Lock in place with lynch pins provided.

2 Grab bale in fashion previously described, making sure that the points of the spinners enter the bale at its center. Load the bale as previously described.

3 Proceed to the unrolling site and unload the bale as previously described.

UNROLL *continued*

4 Raise bale 1 to 2 feet off of ground and remove twine or wrap.

5 Drive forward.

6 Lower bale until it begins to turn. If bale will not turn, activate RELEASE control momentarily to allow bale to begin rotating.

7 Raise or lower bale as you drive to regulate the amount of hay unrolled. Speed of travel and gripping pressure contribute to overall unrolling performance and rate.

STOW

BEFORE RETURNING ARMS TO THE STOWAGE POSITION, MAKE CERTAIN THAT THERE ARE NO BY-STANDERS NEAR THE HYDRABED®, ESPECIALLY NEAR THE AREA WHERE THE ARMS AND REAR CROSS TUBES WILL COME TO REST.

1 To return arms to their stowage areas, make certain that all hay and other foreign material is cleared from bed and cross tube stowage area.

2 Activate GRIP control until both arms are slightly open from 90 degrees to the cross tube.

3 Activate LOAD control until spinners contact floor or arms are stowed.

4 If spinners are not installed, squeeze arms against side of bed after they are in contact with their rests.

5 Shut off pump.

SPECIAL OPERATION INSTRUCTIONS

The bale squeezing arms on your ***HydraBed®*** are activated by rephasing hydraulic cylinders. This feature insures that the arms will always move simultaneously and equally. If at any time, the arms get out of synchronization with each other, follow these steps to restore the correct spacing.

1 For a single rear wheel vehicle (7' wide bed), hydraulically move arms until they are vertical (straight up)
For a dual rear wheel vehicle (7'-8" wide bed), hydraulically move arms to their rearward and down position.

2 Activate GRIP control to bring arms completely together.

3 Hold in gripping position for 20 to 30 seconds. This will rephase the cylinders and restore arms to correct relationship.

4 If at any time the arms do not rephase correctly after doing steps 1 through 3, check for foreign material in the arm base socket area. Rocks, dirt or hay may prevent the arm from full movement. Wash this area out thoroughly and repeat steps 1, 2, and 3 to restore correct synchronization.

After the first 50 hours or 1-month of operation and annually thereafter, the spin-on filter element should be replaced with a new element of same specifications; available from your dealer or HydraBed.

Maintain hydraulic oil level to the check plug at the driver's side of reservoir. Do not overfill. Change hydraulic oil annually at filter change. To drain, remove filter element at the bottom of the reservoir. Grease all grease fittings, and check belt tension monthly. Replace the belt/belts annually.

Any unauthorized modification or change to your HYDRABED® is done entirely at the owner's risk and will void the warranty on all components.

ENGINE DRIVEN

HYDRAULIC OIL

reservoir **5 gallons** — *system* **7 gallons**

-15°F and above
ISO 46
CONOCO POWER TRAN
JOHN DEERE HY-GARD
CASE HY-TRAN ULTRA

-15°F and below
ISO 32
CONOCO POWER TRAN
JOHN DEERE HY-GARD
(LOW VISCOSITY)
CASE HY-TRAN ULTRA SSL

ELECTRIC/HYDRAULIC

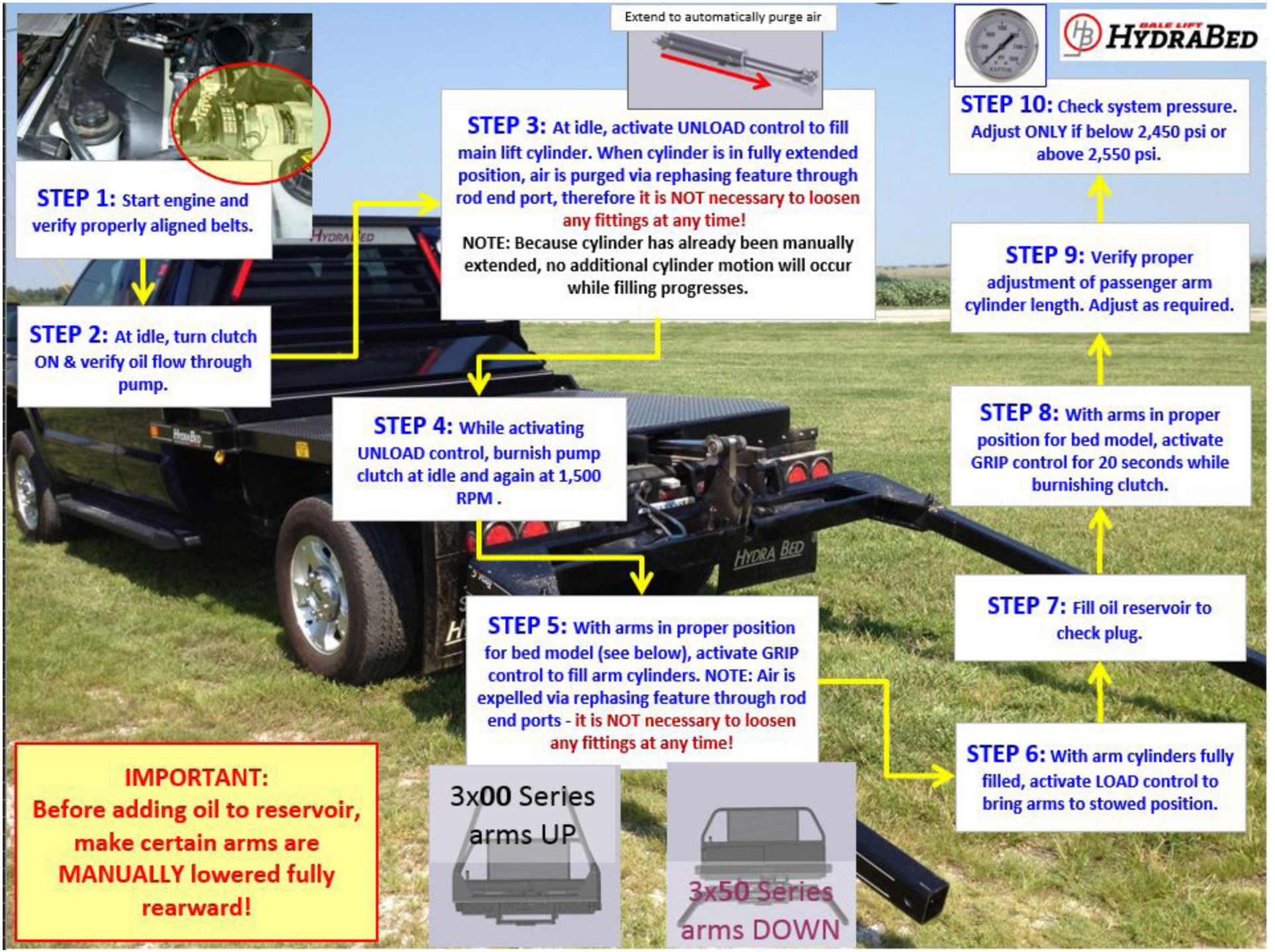
HYDRAULIC OIL

reservoir **5 gallons** — *system* **7 gallons**

all temperatures
ISO 32
CONOCO POWER TRAN
JOHN DEERE HY-GARD
(LOW VISCOSITY)
CASE HY-TRAN ULTRA SSL

FILTER INTERCHANGE

FRAM —— P1653	AC ———— PF16
WIX —— 51551	BALDWIN — BT 839-10
LENZ —— CP-752-10	CASE ——— S-62427


Extend to automatically purge air
HYDRABED
STEP 1: Start engine and verify properly aligned belts.
STEP 2: At idle, turn clutch ON & verify oil flow through pump.
STEP 3: At idle, activate UNLOAD control to fill main lift cylinder. When cylinder is in fully extended position, air is purged via rephasing feature through rod end port, therefore it is NOT necessary to loosen any fittings at any time!
NOTE: Because cylinder has already been manually extended, no additional cylinder motion will occur while filling progresses.
STEP 4: While activating UNLOAD control, burnish pump clutch at idle and again at 1,500 RPM .
STEP 5: With arms in proper position for bed model (see below), activate GRIP control to fill arm cylinders. NOTE: Air is expelled via rephasing feature through rod end ports - it is NOT necessary to loosen any fittings at any time!
STEP 6: With arm cylinders fully filled, activate LOAD control to bring arms to stowed position.
STEP 7: Fill oil reservoir to check plug.
STEP 8: With arms in proper position for bed model, activate GRIP control for 20 seconds while burnishing clutch.
STEP 9: Verify proper adjustment of passenger arm cylinder length. Adjust as required.
STEP 10: Check system pressure. Adjust ONLY if below 2,450 psi or above 2,550 psi.
IMPORTANT:
Before adding oil to reservoir, make certain arms are MANUALLY lowered fully rearward!
3x00 Series arms UP
3x50 Series arms DOWN

PROBLEM SOLVING GUIDE

LACK OF LIFTING OR SQUEEZING POWER:

1 With hood open, and the arms in the vertical position, have an assistant hold the "GRIP" control to bring the arms together completely. Watch for belt slippage, the most common cause of this condition.

2 With engine turned off, check for heating of the electric clutch on the pump. Also check for the required 12 volts at the clutch.

3 Check for clutch slippage. Any oil or foreign material in the clutch will cause slippage.

4 Verify full valve spool travel and that cable or actuator clevis (if equipped) is adjusted properly.

5 If none of the above correct the problem, consult your dealer or the factory.

IMPROPER SYNCHRONIZATION OF ARMS:

1 See D7 through D9 on pages 19 and 20.

2 Dirt, hay or other debris may be built up in the area directly behind the base of the arm. Clean and wash this area out thoroughly.

3 Internal cylinder leakage will also cause this condition, consult dealer or factory.

4 System pressure below the factory setting of 2500 PSI may hinder proper rephasing. Plug a 3000 PSI hydraulic pressure gauge into one quick coupler and check pressure.

UNUSUAL NOISE, OR ERRATIC PERFORMANCE:

1 Normally caused by inadequate or contaminated oil. Drain and replace oil and filter with recommended products.

2 Pump hoses damaged or loose, reattach in secure position, replace with equivalent if necessary.

ADDITIONAL TROUBLESHOOTING INFORMATION

NO OIL FLOW FROM PUMP	
NO ELECTRICAL POWER TO PUMP	Check and resolve
NO OIL IN RESERVOIR	Fill with proper fluid
COMPLETE BLOCKAGE IN SUCTION HOSE	Remove obstruction
NO BELTS ON PUMP	Install proper belts
COMPLETE FAILURE OF CLUTCH	Replace clutch
SLOWER THAN NORMAL OPERATION OF UNIT	
BELTS TENSION INADEQUATE	Tighten belts
HOLE IN SUCTION HOSE	Replace Hose
CLUTCH SLIPPING	Check electrical supply or replace clutch
ABNORMALLY LOW AMBIENT TEMPERATURE	Replace oil with 5W single grade hydraulic oil
CONTROL VALVE NOT FULLY SPOOLED	Manually operate valve with control cable disconnected. Replace cable if defective.
CYLINDER SEAL FAILURE	Are all functions affected? Does the load settle rapidly or slowly? Is there external oil leakage from the cylinder? Reseal cylinder with correct seal kit.

Notes:

_____

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TRIPLE C LIMITED WARRANTY

1 What do I need to do to be covered?
You must properly complete and return the warranty card found at the front of the Owners Manual.

2 What does this Warranty cover?
Triple C will warranty the HydraBed®, ProSpear, HydraFeeder, Post Hole Digger, Across Bed Toolbox, and Dump Box to be free from defects in material and workmanship when properly installed and operated under normal conditions.

3 What does this Warranty not cover?
The warranty does not cover equipment that has been damaged by:
- Misuse (including operation above its rated capacity), abuse, or accident;
- Failure to follow the operating instructions or maintenance protocols that we provided (including failure to regularly lubricate equipment);
- Any improper or unauthorized installation, repair or modification to the equipment; or
- Fire, flood, "acts of God", or other contingencies beyond our control.

4 How long does the coverage last?
The warranty period for structural components -- for example, the frame, welds, hinges and arms -- lasts for **5 years** after purchase date. The warranty period for system components -- for example, the valves, pumps, controls, and motors -- lasts for **2 years** after the purchase date. The warranty period for the 30 Series ***HydraBed***® bale lifting arms lasts for the **lifetime of the product**.

5 What will Triple C do to correct problems?
Triple C may repair or replace the equipment covered by this warranty at no charge.

6 How do you get service?
6.1 If something goes wrong with your equipment, call your Dealer or Triple C. Your Dealer or Triple C will ask for the equipment's serial number and a description of the problem. Triple C will determine (1) whether the equipment is within the warranty period and (2) whether to repair or replace the equipment.
6.2 If we determine the problem can be resolved by providing a replacement part, Triple C may deliver the part to you or to the Dealer. If the part is sent directly to the end user, Triple C will require prepayment of the retail price of the replacement part and applicable shipping costs. Triple C will also send instructions for returning the replaced part.
6.3 If we determine the problem requires service, your Dealer or Triple C will schedule a service appointment at a mutually convenient time at no charge.
6.4 If you follow the return instructions, Triple C will refund any prepayment for the part and shipping. However, you will not be refunded if (1) you fail to return the part as instructed, (2) we determine that the equipment is not covered under this warranty, or (3) we determine that the problem was due to one of the disqualifying causes in Section 3.

7 What will Triple C not do?
Triple C will not be liable for any amount that exceeds the amount you paid for the equipment. However arising, we will not be liable for:
- Expenses incurred without our written authorization;
- Direct, indirect, incidental or consequential damages, such as the loss of anticipated profits or benefits; or
- Loss or damage of any material used with the equipment.

We make no warranty of merchantability or fitness for a particular purpose.

8 How does state law relate to this Warranty?
This warranty gives you specific legal rights. You may also have other rights, which vary from state to state.